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Stories are current in the Western papers of reports brought by returning volunteers from the Philippines of indications of mineral wealth seen there. The Utah, Montana and California regiments included in their ranks a number of miners who would naturally be on the look-out for such indications, and able to understand what they saw. It must be remembered, however, that the area over and through which our troops have passed so far is limited, and includes portions of the country where mineral discoveries are hardly to be expected. The reports mentioned should be received with caution, as improbable, though not impossible. When explorations become possible, it may be that the Philippines will be found to possess mineral wealth, especially in gold. Until a more thorough and extended search is possible, it is well to suspend judgment.

To illustrate the cheapness with which gold dredging is carried on in New Zealand, and the returns there obtained on small capital, a late number of the New Zealand "Mines Record" gives the returns of 11 dredges working within a radius of eight miles of the town of Alexandra. The total secured was 601 ounces gold, valued at $11,150, giving an average of $1,014 per dredge. As $250 a week each is a high estimate for the cost of running these dredges—many of them falling below $200—the average profit looks very satisfactory; especially as the average capital of the companies owning them is only about $30,000. Of course there was a variation in the gold won, but the dredge reporting the lowest quantity more than paid expenses, while the highest return showed a gold production of $2,680 for the week. The period chosen was a fair average week, with no special finds to swell the returns.

The present state of the money market and the heavy present and prospective exchanges of gold call attention again to the advantages and possibility of establishing a common monetary standard. It would be quite easy, by a little mutual concession to make our own five-dollar piece, the English sovereign, a German twenty-mark piece, a French twenty-five franc piece and a Russian ten-rouble piece of the same gold contents and therefore interchangeable at sight. The changes required would be so small that no appreciable differences in the respective coinage systems would result; while no change in names or impressions need be made. The great advantages are apparent, and we believe the only opponents of the change would be the money brokers who now make a profit by exchanging currency. Indeed, we believe that such a reform has been postponed only because no one has been specially interested in pressing it.

The Chinese concessions as to mining properties, of which a great deal was said some time ago, have been materially modified by a recent order issued by the Imperial Government; the changes being such as to deprive the grant of mining privileges of much of its value. According to the new regulations the control of all mining companies must be with the Chinese stockholders and the mining operations must be under Chinese direction. Moreover, a strict official inspection is to be provided, which can easily be made very embarrassing to all attempts to carry on work after European methods, if not fatal to their success. If the usual Chinese official methods are pursued, it would be a costly matter for any mining company to meet the requirements which might be made, or rather to prevent them from being made. It is evident that hopes based upon mining in China, unless backed by very strong foreign influences, are not likely to be realized. It would be well to remember this when new schemes are brought forward.

This is the usual Chinese policy; concessions apparently very liberal, under foreign pressure, to be taken back or modified later when the pressure is removed. There is no hope of any permanent change until China is remade or passes entirely under foreign rule.

The entire operation of a large shop by gas engines using producer gas is new in this country, and the first instance deserves special notice. On another page we give some account of the producer plant which is now at work in the new shops of the Erie Railroad Company in Jersey City. The producers are of the Taylor pattern, using rice coal—the smallest and cheapest size of anthracite—and the plant is a simple and compact one, taking up much less space and requiring far less labor and attention than would steam boilers furnishing the same power. The working of the plant thus far has been entirely satisfactory, and the records show a consumption of only 1.1 pounds of the rice coal per horse-power hour, while the average duty of the engines is equal to 22 per cent. of the theoretical efficiency of the fuel consumed. These results would have been considered impossible only a few years ago; but they are now attained, not in any special trial, but under the conditions of regular daily service. They reflect great credit upon the designers and constructors of the plant. We may add that in its con-

struction machinery is used wherever possible, so that the operation is largely automatic, and labor is reduced to the lowest possible point.

This is another instance showing the great economies possible in furnishing fuel to our cities in the form of gas, instead of coal. What can be so successfully done in one large industrial establishment can be carried out equally well on a great scale; while the economy and convenience of transporting and delivering the gas will add to the gain.

As might be expected from the great activity in the iron trade, the making of coke in the Connellsville Region in Pennsylvania is an exceedingly profitable industry just now, and production is being pushed to its utmost possible limit. Shipments in fact are limited only by the ability of the railroads to furnish cars. Our correspondent reported last week that out of a total of 19,109 ovens in the region 18,236 were at work; nearly all the rest being under repair. This is an unexampled showing. Moreover, a number of new ovens are under construction, and the producing capacity of the region will be considerably increased before the close of the year.

It is to be noted that all the new ovens are of the old bee-hive type, and we do not hear of any by-product coke-ovens now building in the region. The reason for this is very simple. The demand for coke is pressing and it is desirable from the point of view of the coke-makers to have the increased productive capacity available as soon as possible. The bee-hive oven is a familiar and simple construction, and a block of them can be built quickly and be ready for use much sooner than any of the by-product types. Just now the ability to increase output seems to be of more importance to the operators than any economies in working; while high prices seem to make such economies unnecessary, at least for the time. It is easier to go on in the old way, and there is no time to consider new methods.

Coke production is also on the increase in other regions, and a number of new ovens are under construction in West Virginia and in the southwestern section of Virginia. In Alabama a large number of new ovens are being put in operation, most of them being owned by the iron companies. The output of coke in the United States for the current year will be the largest on record.

CARRYING LAKE IRON ORES.

The position of the ore carriers on Lake Superior next season will be one wholly unprecedented in the trade. Until quite recently the business of transporting the ore from the shipping points to the docks on Lake Erie and Lake Michigan was very largely an independent one. The owners of the mines made contracts, to some extent, for the season with the vessel-owners, though there was always a considerable number of vessels which were open to occasional charters; their number varying with the demand for tonnage for grain and other freights. The changes in ore rates were due to this "wild" element, and in poor years the surplus tonnage brought rates down to a very low point. The Lake Superior Iron Company was, we believe, the first of the iron mining companies to own its ships, though it usually had to charter some outside vessels also. When the Rockefeller interest came into the Mesabi the system of owning vessels was rapidly extended, and the independent tonnage open to charter began to decrease; since other companies saw that they must follow the same system, or run the risk of being left without transportation when needed.

Within the past few weeks an extraordinary contest arose over the ownership or control of lake tonnage. It was precipitated by the action of the Rockefeller party in buying up the boats of the American Steam Barge Company, better known as the "whale-back" fleet. This was followed by a rush of other interests to secure vessels, which continued until nearly everything available was taken up, and all the new vessels ordered which the yards will be able to turn out. The "wild" element next year will be reduced to a minimum, if it remains in existence at all. The ore not moved by the boats owned by the companies will be carried on season contracts.

According to figures just collected by the Cleveland "Marine Review"—a good authority—there are now in the hands of the mining interests, either by ownership or contract, vessels capable of handling 17,798,000 tons of ore during the season. This is a quantity far in excess of any year's production yet made by the Lake Superior mines; though no one would venture to say that it may not be reached next season. The representatives of the Rockefeller interests hold vessels able to handle 6,300,000 tons, while the Carnegie Steel Company can count on at least 3,000,000 tons. The capacity of the vessels directly owned by the various companies carrying on mining operations make up 11,375,000 tons, and chartered boats 6,423,000 tons.

These transactions have fixed the general charter rate at $1.25 a ton from Lake Superior to Lake Erie ports. The rate has been as low as 45 cents within a year, so that the advance is a large one. At the next year's rate a vessel capable of handling 100,000 tons of ore during the season would make $125,000, without counting any return freight of coal, etc., which she might pick up, thus ensuring an exceedingly satisfactory return to the owner.

On the other hand, it is possible that some of the smaller mines may have trouble in finding carriers, and will be forced to take whatever the companies see fit to give them. The hold of the large concerns on the Lake ore region is again strengthened and their influence made more pronounced.

THE VALUE OF FOREIGN TRADE.

We have heretofore called attention to the fact that at the present time an unexampled business activity prevails among all civilized nations. With one or two exceptions only, all the people of Europe and America are more busily and actively at work than ever before. The reaction from the long period of depression which began with the Baring crisis in London and was intensified by our panic in 1893, is now at its height. Everywhere there is a demand for raw materials and for manufactured goods which requires the utmost exertions of manufacturers to supply. It is as if the whole earth had money in its pocket and was eager to spend it.

This is not the place to go into the causes of the present activity, nor have we space for such an argument. It is enough to know that the reaction is in progress, that there is general prosperity, and that the United States is getting its full share. It should be our object to see how far the present conditions favor us, and how we can secure a still larger proportion of the world's trade than we already hold.

It is not so very long ago that the manufacturing nations of Europe hardly considered the United States at all as a factor in foreign trade. They were content to buy our agricultural products and to try and sell us all the goods they could, but did not consider us as competitors of importance for the trade of other nations. A few observant men, perhaps, knew something of what was going on here, especially in the line of development of our mineral resources and metallurgical methods. These few may have regarded the future with some apprehension, but the great majority did not consider it at all. How great the change has been is shown by the facts that many of our manufacturers are giving a large share of their time to foreign orders; that heavy shipments of iron-working machinery, of electrical machinery and appliances, of mining machinery and engines are being made abroad; that American rails are being laid and American locomotives are running in Great Britain itself; and that the material and equipment of the greatest railroad now under construction—the Russian line across Siberia to the Pacific—are largely supplied from this country.

This work goes on in spite of the extraordinary demand which at present exists at home. Thus the returns of the Treasury Department show that the value of the exports of manufacturers from the United States for the nine months ending with September reached a total of $277,502,649; the largest ever reported for a similar period, and $49,680,604 more than in 1898. A growth of nearly $50,000,000 in three-quarters of a year. The largest item in value of these exports—$59,505,893, or 21.5 per cent. of the total—is iron and steel and manufactures thereof, including rails, wire, nails, structural material and machinery of all kinds. That such a showing could be made, would not have been considered possible a few years ago.

General prosperity and the enterprise of our manufacturers who have understood how best to utilize the means at their command, and to increase production rapidly, have given us the opportunity to sell our wares abroad and to make them known. So far the chances have been well utilized, but it is of the greatest importance that something more should be done, and that steps should be taken to hold and extend the trade already secured. We must not expect that we can do this without some effort, or that our active competitors in Great Britain and Germany will allow us to take away their customers permanently, if they can prevent it. We must expect opposition, and it is not enough to depend solely upon the price and quality of our manufactures. We must make our goods known to possible buyers and keep them constantly in evidence, if we are to succeed in supplying the world. The best methods are to study the needs and customs of other countries; to suit our goods to their wants and tastes; to conform as far as possible to their trade customs; and above all, to advertise widely and persistently. The trade journal, which has a wide circulation abroad, and which is looked to by its foreign readers for information as to American practice and improvements, is a medium of the highest value; as advertisers in the "Engineering and Mining Journal" have repeatedly found.

Some manufacturers, we regret to hear, are now saying that it is no use to follow up foreign trade, since their capacity is fully occupied by home orders. It is useless, they say, to work for contracts which they do not need. We need hardly say that this short-sighted policy is not that of the best business men.

We hope and believe that the present activity in business will con-

tinue for a long time yet; but we all know that in time a reaction will surely come. When home contracts begin to fall off and new orders are less frequent, the foreign business will come in to equalize matters and to keep mills and factories at work. The periods when trade is dull in all parts of the world are as exceptional as is the present time of universal activity. There is always a demand somewhere to be met, and this may be most acceptable in a slack time here. If we let our present opportunity pass the work of securing foreign trade must all be done over again, and under difficulties which do not now exist. There is no time like the present, and we should use every means of keeping ourselves before the foreign public, and of taking and holding the trade which can be ours if we are determined to have it, and willing to work for it.

NEW PUBLICATIONS.

"A Treatise on Masonry Construction." By Ira O. Baker. Ninth edition. New York; John Wiley & Sons, and London; Chapman & Hall. Pages, 556; illustrated. Price, $5.

This is a new edition of Prof. Baker's valuable book, which has for several years been a standard authority on masonry construction. It is too well known in the earlier editions to require any extended review. In the present edition, the chapters on Cement, Mortar and Concrete have been entirely rewritten, and a new chapter has been added on Sand, Gravel and Broken Stone. In addition many changes of less importance have been made to bring the work up to date and to embody the results of recent investigations.

"Terminal Index For Use With McNeill's Code." By Bedford McNeill. London; Whitehead, Morris & Company. Pages, 144. Price (in New York), $2.50.

This is an addition to McNeill's well-known code, which will be found extremely useful in a great many cases. Its purpose is best explained by the writer himself as follows: "The mutilation of a cipher word takes place for the most part, either with respect to its initial or terminal syllable. Inasmuch as the cipher words are arranged in Parts I. and II. of McNeill's Code in an absolutely alphabetical order, provided the termination only of the word is affected, very little inconvenience is experienced, but if the commencement of the word is incorrectly transmitted much valuable time may be lost before the precise cipher is located. To meet this difficulty, and assist in quickly determining the possible alternatives of any mutilated word, the 'Terminal Index' has been compiled. By its aid, together with, on the one hand, either a little discrimination of the Morse signals involved, or on the other the context of the message already translated, the actual cipher word originally sent can almost invariably be found."

Those who are familiar with and in the habit of using "McNeill's Code" will find this addition to it exceedingly useful, if not indispensable.

"Magic; Stage Illusions and Scientific Diversions, Including Trick Photography." Compiled and edited by Albert A. Hopkins. With an introduction by Henry Ridgely Evans. New York, 1897; Munn & Co. Pages, 556; illustrated. Price, $5.

While this work contains little matter that has any direct bearing on mining or the mineral industry, its pages give detailed descriptions of the most famous tricks and illusions that have been brought before the public by various conjurors, and consequently provide some extremely interesting reading. The book opens with a brief history of magic and conjuring, and then takes up the various tricks, illusions and feats of sleight of hand. The tricks due to optical illusions and mysterious disappearances caused by the use of special apparatus are described at length; and then the author takes up feats of conjuring. This description includes all tricks of sleight of hand, the acts of jugglers and acrobats, fire-eating, sword play, ventriloquism, etc. There is also a full description of the seeming mysteries of so-called second sight, thought transference, etc. Then follows a chapter of ancient magic, describing some of the devices employed in ancient temples by priests to impress the ignorant, and containing also an account of various curious instruments and ingenious toys devised by the Greeks. A chapter on science in the theatre gives a description of the stage of the modern theatre and tells how all the various stage effects in any spectacular play are produced. There are also short chapters on automata and curious toys, including the automatic chess player, the planchette table, magic mirrors, etc., and also a chapter on trick photography, the kinetoscope, biograph, etc. The book is fully illustrated, and will be found a source of entertainment for many odd moments.

"Mineral Resources of Kansas, 1898." By Erasmus Haworth. Being Annual Bulletin of the University Geological Survey. Lawrence, Kansas. Published for the Survey. Pages, 128; illustrated.

In popular reputation, Kansas is rather an agricultural than a mining State, and without some such reminder as the present volume, few people outside of the State—and probably not all in it—would recognice how large and important is its mineral production. The chapters of the report treat in succession of Lead and Zinc which are produced chiefly in the southeastern section of the State, the Kanssa zinc mines being really a part of the Joplin District, the greater portion of which is in the State of Missouri. Coal follows lead and zinc, and last year its production reached a total of 3,860,405 tons. The chapter devoted to oil and natural gas shows the increasing importance of those products, which promise to be important factors in the industrial development of the State. Gypsum and cement furnish material for two additional chapters, and both are products of considerable value. To salt a good deal of space is given, since the Kansas salt deposits are of great extent in value and the production is large. Building stones and clays receive their share of attention and a considerable extent of production of both is shown. One chapter is devoted to gold and silver not because the precious metals are found in the State, but rather as a warning to those who ignorantly or for interested purposes, have tried to demonstrate their existence in the shales of the western part of the State. Mr. Haworth very conclusively shows that evidence is entirely against any discoveries of these metals, or any probability of such discoveries.

The report is an excellent piece of work, and shows that the University Geological Survey is conducting its examination of the mineral resources of the State in a comprehensive and intelligent way.

BOOKS RECEIVED.

In sending books for notice, will publishers, for their own sake and for that of book buyers, give the retail price? These notices do not supersede review on another page of the Journal.

"New South Wales: Annual Report of the Department of Mines and Agriculture for the Year 1898." Sydney, N. S. W.; Government Printer. Pages, 204; illustrated.

"The Statistical Year Book of Canada for 1898." Fourteenth Year. Issued by the Department of Agriculture. Ottawa, Canada; Government Printing Office. Pages, 608.

"First Annual Report of the Chamber of Mines of Victoria, Australia. Year ending June 30th, 1899." Melbourne, Victoria; published for the Chamber of Mines. Pamphlet, pages 38.

"Mines and Quarries of the United Kingdom; General Report for 1898. Part III. Output." Edited by C. Le Neve Foster. London; H. M. Stationery Office. Pages, 226; with diagrams.

Wisconsin Geological Survey. "On the Building and Ornamental Stones of Wisconsin." By Ernest Robertson Buckley, Assistant Geologist. Madison, Wis.; State Printer. Pages, 544; illustrated.

"New South Wales Statistical Register for 1898 and Previous Years: Part VIII., Agriculture and Mining." By T. A. Coghlan, Government Statistician. Sydney, N. S. W.; Government Printer; Pages, 88.

"California Mines and Minerals." Prepared by the California Miners' Association, under the direction of Edward H. Benjamin, Secretary, for the California Meeting of the American Institute of Mining Engineers. San Francisco; published by the Association. Pages, 450; illustrated.

United States Commission of Fish and Fisheries: Bulletins Nos. 418—422. "No. 418. Fishery Trade of Porto Rico." By W. A. Wilcox. "No. 419. Fishes of Florida." By B. W. Evermann and W. C. Kendall. "No. 420. Fisheries of the Gulf States." By C. H. Townsend. "No. 421. Fisheries of the South Atlantic States." By C. H. Townsend. "No. 422. Feasibility of Introducing Useful Marine Animals into Great Salt Lake, Utah." By H. F. Moore. Washington; Government Printing Office.

CORRESPONDENCE.

We invite correspondence upon matters of interest to the industries of mining and metallurgy. Communications should invariably be accompanied with the name and address of the writer. Initials will only be published when so requested.

Letters should be addressed to the MANAGING EDITOR.

We do not hold ourselves responsible for the opinions expressed by correspondents.

Alkaline Deposits in Wyoming.

Sir: In 1895 the Green River Fuel and Oil Company, of Green River—a division point on the Union Pacific Railroad, 800 miles west of Omaha—in drilling a well for either gas or oil, encountered an alkaline water which caused a stoppage of operations. Some months later this water was analyzed, proving it to be charged with a high percentage of sodium carbonate, instead of sodium sulphate as is generally the case in alkaline waters in the West. The importance of this discovery was not appreciated by the owners of the property, neither did they possess the means to take advantage of this freak of nature. Later numerous analyses of the water were made, all of which show a remarkable uniformity—in fact, there appears to be no variation in any particular in the four years the well has been flowing, except as the temperature of the water has changed with the seasons. Except sodium chloride there are only traces of other solids to be found in the water. The lesser solubility of salt compared with sodium carbonate admits of its precipitation cheaply and the subsequent recovery of the sodium carbonate may be obtained at a cost of possibly not to exceed $1 per ton, for a dry product that will show 60 per cent. actual alkali.

A recent analysis, or test, of the water, by Herman Harms, of Salt Lake City, in no essential differs from others made in past four years and shows: Color of water, bluish tint; odor, very slight; clearness, bright; sediment, very slight; gravity, 13.5 per cent. at 59° F., corresponding to 25.43 per cent. solids—crystallized carbonate.

One liter contains of crystallized sodium carbonate, 246.20 gr.; of sodium chloride, 6.12 gr., and traces of sulphate of lime and potash. Practically speaking, 1 gallon of this water contains 2.05 lbs. crystallized sodium carbonate and 0.05 lb. sodium chloride.

This unique flow of alkaline water has not yet been turned to a commercial proposition, though plans to that end are now being formed. Its economic importance can be readily appreciated by any well-informed industrial chemist. Coal for steam or evaporating purposes is to be had from Rock Springs—15 miles distant—for 75c. per ton, delivered at Green River. Lime rock, necessary in the production of caustic sode, is found within 7 miles of this well.

L.

Rock Springs, Wyo., Oct. 15, 1899.

THE CALIFORNIA STATE MINERS' ASSOCIATION.

The annual meeting of the California State Miners' Association opened in San Francisco, October 23d, and continued until October 25th. There were three sessions held for business, and incidentally the members visited on invitation the Union Iron Works and other points of interest. A banquet was given to the delegates on Wednesday evening.

The committee on credentials reported 572 delegates entitled to seats. The various counties of the State sent delegations as follows: San Francisco, 45; Butte, 20; Calaveras, 21; Alameda, 11; Santa Clara, 15; Nevada, 146; Placer, 59; Los Angeles, 4; San Diego, 5; San Bernardino, 5; Kern, 5; Inyo, 7; Riverside, 5; Plumas, 10; Sierra, 22; El Dorado, 25; Amador, 55; Tuolumne, 10; Siskiyou, 5; Yuba, 7; Fresno, 5; Lassen, 5; Madera, 4; Marin, 5; Solano, 1; Shasta, 2; San Joaquin, 2.

A special feature of this meeting was the presence, in response to an invitation issued some time ago, of delegates from other States, as follows: Colorado, 11; Nevada, 11; Washington, 6; New Mexico, 14; Wyoming, 8; Montana, 11; Oregon, 2.

President Jacob H. Neff made a long and interesting annual address. The first part of it dealt with the history of the mining situation in California, leading up to the passage of the Caminetti law placing hydraulic mining in this State under Federal protection. The agitation from 1891 led to the forming of the California Miners' Association, and it has since busied itself with many important matters, particularly that of working for the creation of a national executive department of mines and mining. Mr. Neff said in part:

"Among its other work this association has secured appropriations from State and Federal governments in aid of the mining industry; has secured the passage of several favorable acts by the State Legislature; has assisted materially in several mining exhibitions; worked with the Trans-Mississippi and Mining Congrseses; caused the Land Department of the government to act more favorably toward the mining interests, brought forcibly to the attention of Congress the encroachments of corporations on the public mineral domain, so that this will shortly be stopped; inaugurated the movement for the conservation of water in California, and that looking toward the appointment of a Cabinet officer with a department of mines and mining; helped revise certain State laws; and, perhaps more than all, has created and fostered a public sentiment favorable to the mining industry of California and to the miners themselves. All these matters appear easy to enumerate, but they have not been easy of accomplishment.

"There are several matters which the members of this convention must earnestly consider and, by their resolutions, indicate the course the miners of the State should pursue. You are the representatives of a hard-working and busy class of men who cannot give attention to the details of all these matters, and they look to this body in a great measure for guidance.

"In the first place, we should continue to urge before Congress the so-called mineral lands bill, upon which we have already expended so much labor. In the face of the bitter opposition of those who are benefiting by the present condition of affairs, and the adverse influence in high official quarters, we have already accomplished much. It is highly probable that this pending measure will pass the next time it is considered by Congress, but we must spare no efforts to see that it does.

"Tnen we want that Department of Mines and Mining and that Secretary of Mines in the Cabinet of the Nation.

"These are national matters upon which I have thus far spoken. But here at home in our own State, where most of our work lies, we have important problems to help solve. It was this association which first suggested that some general plan be urged for the conservation of water aside from that in vogue among the private mining and ditch companies. Their experience has shown what can be done by individuals, but vastly more can be accomplished by public assistance and the adoption of a general system. The experience of the past two years has shown what a vital necessity this is for the general welfare of the producing classes—the miner, farmer and manufacturer. Even in the dry years there is plenty of water in the high mountain regions, could it but be conserved for use during the rainless months. The climatic features peculiar to this State require that the people unite in carrying out some thorough system which will enable us to control the flood waters and not allow them to pass off as useless when we so badly need them later on.

"And another thing, and one of no small importance either. It is evident that this association has got to go back to first principles and take up the fight of the hydraulic miners again. And we have got to take it up vigorously, too. The Caminetti law, for which we all fought so hard and which has accomplished much, is in danger, and with it the whole hydraulic-mining industry of California once more. Our old opponents, who were never very well satisfied with the debris question being taken out of local hands and placed in those of the government, want again to be in a position to have something to say in this matter. Their old weapon, the injunction, has been brought out and put into the hands of the men who formerly wielded it so disastrously."

Chairman B. N. Shoecraft of Nevada City read the report of the committee on the mineral exhibit to the Paris Exposition. This report was to the effect that the committee had worked hard to secure adequate funds for a complete exhibit, but had been able to secure an addition of only $10,000 to the Valentine bill appropriating $120,000 for making a general exhibit of all the products of the State—an entirely inadequate sum. "We regret," said the committee, "that the recommendations of this association have been ignored, and that the California Miners' Association has nothing to do with the exhibit of minerals that is being collected for the exhibition at Paris." The report was adopted.

The report of the committee having charge of the agitation for the creation of a national Department of Mines and Mining was read by Chairman Tirey L. Ford. The report says in part:

"West of the Mississippi the sentiment is practically unanimous in favor of the establishment of the desired executive department, and the Congressional delegation from that portion of the country in both Senate and House is favorably disposed toward the needed legislation.

"East of the Mississippi, however, while there exists no well-defined opposition, there is a prevailing apathy that can only be removed by active and intelligently directed missionary work among those interested in the various branches of the mining industry. Two of your committee, Messrs. Halloran and Ralston, have personally visited several of the Eastern States during the time covered by this report and have done much toward securing the friendly aid of our mining brethren of the East.

"Your committee begs to further recommend that a committee of five be again appointed by the president of the association to take charge of the matter on behalf of the association for the ensuing year."

The reports of Secretary S. J. Hendy and Secretary Edward H. Benjamin were read and approved. The latter report enters into a detailed account of work done during the past year, with a statement of finances. It shows that active work was done toward securing the co-operation of other States and Territories in the fight for the creation of a national executive Department of Mines and Mining, headed by a secretary to have a seat in the President's Cabinet. Six meetings of the executive committee were held during the year, to act upon the matter of an exhibit at Paris, to defend the Caminetti debris law, and to assist in shaping legislation at Sacramento. Reference is made in the report to the visit of the American Institute of Mining Engineers and to the publication of the book setting forth California's mineral resources. The organization of local associations is reported in Southern California and Tuolumne County, and work is now going forward toward organization in other counties.

The receipts for the past year were $15,610, and the expenditures $11,904, leaving $3,706 in the treasury. The principal expenditures were: Souvenir book, $4,538; entertainment of American Institute, $3,548; Red Dog lawsuit, $500.

The committee on legislation reported, through Judge John F. Davis of Amador, chairman. The report states that the immediate interest of the association in legislation is a demand for the rehabilitation of hydraulic mining, the segregation of mineral from agricultural lands in railroad land grants, the creation of a Department of Mines and Mining, and the conservation of mountain waters. The report reviews the attempted legislation of the four subjects mentioned and reiterates the great necessity for a uniform Federal mining location law.

The report of the committee on resolutions was read by Chairman J. F. Halloran. Stripped of the numerous preambles, the important resolutions are:

"Resolved, That the California Miners' Association stands by the existing United States law regulating hydraulic mining in California.

"Resolved, That it is the duty of this association to use all legitimate means at its command to secure the creation and establishment of a national executive Department of Mines and Mining, with a Secretary at its head who shall be a member of the President's Cabinet.

"Resolved, That the California State Miners' Association again directs public attention to the necessity for a concerted movement toward the proper conservation of the waters of the State.

"Resolved, That the legislative committee of the Miners' Association of California is hereby instructed at the next session of the Legislature of said State to secure the passage of an act which shall find in substance that every person who shall steal and carry away from any quartz, placer or other mine any gold dust, amalgam, quicksilver or gold-bearing ore, earth or quartz, the property of another, shall be punished by imprisonment in the State prison.

"Resolved, That we respectfully request action by Congress on the subject of opening Pyramid Lake and Walker Lake Indian reservations, Nevada, to prospecting for minerals therein.

"Resolved, That the committee on legislation is hereby instructed to prepare a bill for presentation to the Legislature at its next session, repealing in clear and explicit terms the mining act of 1897.

"Resolved, That a draft of a bill be presented to the Legislature of this State making mandatory a record of all mining claims.

"Resolved, That we favor the preservation and development of our national resources by the construction of storage reservoirs by the Federal government for flood protection and to save for use and aid in navigation and irrigation the flood waters which now run to waste.

"Resolved, That we appreciate highly the efforts made by the members of the National Congress and the Legislature of this State to secure the passage by each of those bodies of that measure known as the California mineral land bill.

"Resolved, That it is the sense of this convention that one complete and uniform system of laws, rules, and regulations relating to locating, working and holding mining claims on public lands of the United States shall be provided for by the National government."

The report of the committee on debris dams was read by Chairman A. Caminetti, and adopted. It reviews the work up to date, and speaks with special satisfaction of the new power vested in the Secretary of War to accept appropriations made by States, as well as machinery owned by States, in furthering construction of debris dams. The committee hints that work from now on may be in the courts, defending the Caminetti law, rather than in Congress or the Legislature. The committee asked for power to meet the representatives of the anti-debris movement and reach an understanding, if possible, without litigation. This power was granted by the association.

J. M. Gleaves read the report of the committee on conservation of water. It brought up to date the history of the movement.

Hon. Jacob H. Neff, who had been president for eight consecutive years, declined a re-election, and the following officers were chosen: President, William C. Ralston, of San Francisco; vice-president, Frederic Zeitler, of Nevada County; treasurer, S. J. Hendy, of San Francisco; secretary, Edward H. Benjamin, of San Francisco.

The association also voted that the president should appoint a committee of five to assist in the organization of county associations; and delegates to represent the association at the Water and Forestry Convention, to be held in San Francisco, November 14th.

THE SILVER KING MINE AND MILL, UTAH.

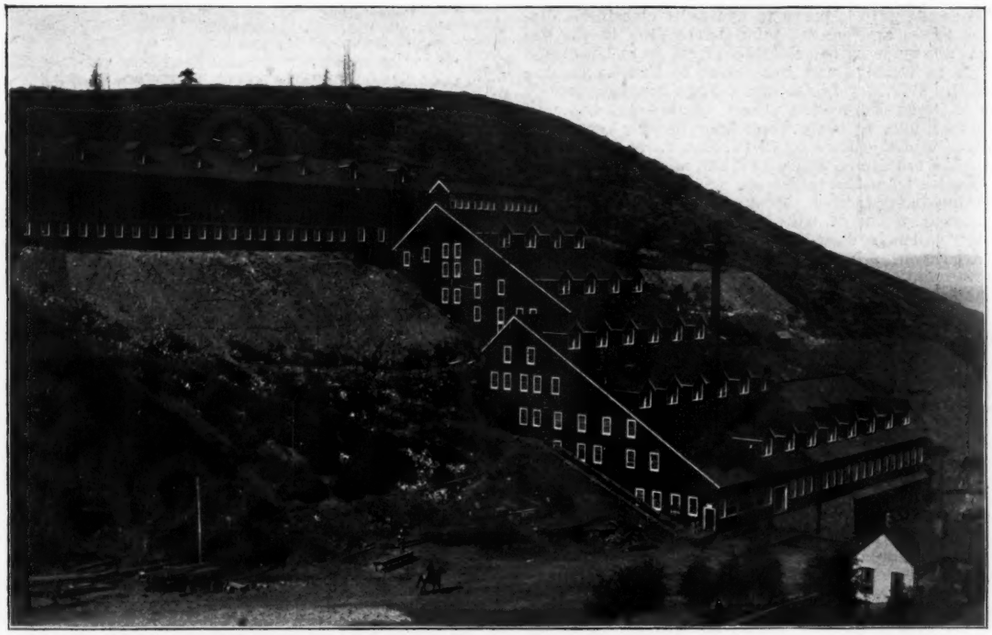
Written for the Engineering and Mining Journal by H. L. J. Warren.

Among Utah's mines, past or present, the Silver King, at Park City, in the Uintah Mining District, takes high rank, both for its present production and its large proven ore reserves. During the current year the monthly dividend has been $50,000, and the probability is that, beginning with October, 1899, this will be augmented to $75,000. Even this handsome premium to the fortunate share-owners might be increased. The ruling lead quotations mean much for the Silver King. In a large part of the ore there is a certain proportion of gold; though the mine is not looked on as a producer of the yellow metal, in 1898 it contributed considerably more than $100,000 to Utah's gold product—as a by-product.

On the 1,100-level there is a phenomenal uncovering of massive galena, entirely free from zinc—something unique for Park City. In fact while the Crescent on one side is idle, owing to the zinc contents of its ore, and to the south and east the Anchor and Daly West have to battle with zinc and high treatment charges, Silver King is favored with an absence of this metal in all of its ore products. There is an enormous tonnage of low-grade concentrating material, carrying galena and lead carbonates, the latter occurring abundantly in the lowest workings, to secure the values from which the largest plant in the State is being put in commission. Like all the betterments on this property it is a most substantial structure, with solid rock foundations for the building proper and for all the machinery. It is the purpose of the present article to describe the mill rather than the mine.

A covered double-track tram 900 ft. long connects the shaft-house with the ore-house at the top of the mill. The main ore-bin is 125 ft. long, 40 ft. deep and 25 ft. wide; capacity 2,500 tons. It rests on a masonry foundation 3 ft. thick. From the main bin the ore is discharged into cars from 21 chute gates, each loaded car being weighed and dumped on grizzlies in front of the crushers—fine material passing to a 250-ton bin, which also receives the discharge from the crushers. The fine material is 50 to 60 per cent. of the ore as delivered to the mill. From this bin the ore passes an automatic feeder to a revolving screen, with ½-in. perforations; the coarse going to the first set of Cornish rolls and the fine—united by the discharge from the rolls—is carried by a vertical elevator 40 ft. high and discharged into a series of 4 revolving screens. The coarsest, ½-in. product, goes to the first set of Hartz jigs; the under size passes to screens having 5/16-in., 3/16-in. and 1-12-in. perforations respectively, affording the feed to the remaining jigs. There are the usual elevators for handling the over-size stuff, etc. There are 16 double-compartment Hartz jigs having side discharges; 8 on one side of the mill and 8 on the other, the equipment of the mill being arranged in two independent sections, each having a daily capacity of 125 tons. The jigs thus handle four different sized products, and their strokes vary from 125 to 350 per minute, the slowest on the coarsest material, and vice versa. The revolving screens, of which there are 10, are each 36 by 72 in. The vertical elevators are an innovation in Park City and they operate admirably.

The checks on the mill's work are a prominent feature. After the original weighing in of the ore, as cited, an automatic sampler at the lip of the crusher cuts out a sample each 30 minutes, which passes to a special bin, thence to a laboratory Blake crusher and through an automatic sampler, which reduces the bulk to a workable sample. In



SILVER KING CONCENTRATING MILL, PARK CITY, UTAH.

SILVER KING MINE AND MILL, PARK CITY, UTAH.

this way the metal values of the crude ore are daily charged up against the mill.

To follow the several products from the jigs, pulp too fine for the last jigs passes to four-compartment hydraulic classifiers, the product from the first going to sand jigs, that from the second and third to Wilfley tables, and from the fourth to Frue vanners. An overflow conveys the float slime, which seems nearly clear water, to canvas tables. The classifiers afford 5 separate products, varying from 12-mesh to 80-mesh, each passing to its own table.

On the half-floor below the jigs are two sets of 14 by 36-in finishing rolls through which pass the tails from the jigs, and on the floor below are four Huntingtons which reduce the discharge from the finishing rolls to 30-mesh. Thence the pulp is taken to hydraulic classifiers, distributed over Wilfleys, Frues and canvas tables, according to the varied sizes. Six products are made by the classifiers from 20 to 180-mesh; the first and second go to Wilfleys and the others to Frues. On the main bottom floor are the 8 Wilfley tables and 6 Frue vanners, though but one Frue is now in commission; the others are ordered and will be added shortly. In an annex to the ground floor on the lower side of the mill are 12 canvas tables, each 2 by 60 ft., and set at a grade ¼ in. to 1 ft. Every hour the tables are washed off and afford a handsome carbonate product. Results from the tables are so satisfactory that as many more are to be immediately added. Most of the ore in the milling material is lead carbonate, much of which is almost an impalpable powder. Nearly all the galena is saved on the jigs. The concentrate dryers complete the treatment scheme. As the tails are carried into the canyon below an automatic sampler cuts out an index sample each 15 minutes, and from these it is learned what the mill is saving or allowing to escape.

Mr. J. Breckenridge Fleming is the mill superintendent. He did not assume charge until the plant was supposed to be ready for operation—at least one section—which has not proved to be the case, as under his charge several months were devoted to alterations and adjustments. Some essential improvements have been made in the interior and now a clean recovery of better than 90 per cent. of the metal contents is obtained. Half the plant, or one section, now readily handles 100 tons in a shift of 9 hours. Hitherto water for milling needs has been at a high premium, but this disadvantage is overcome through the transfer of the Alliance property, the water from the Alliance tunnel being conveyed by a pipe line to the mill. As lack of water was all that hindered and held back the putting of the other half of the mill in commission no further time is to be lost in so doing. It will not tax the mine to supply continuously 300 tons of milling stuff daily and Mr. Fleming avers that when all is properly adjusted the mill, in one shift, can put that amount through.

The mill is lighted by electricity and heated by steam—the entire structure being so well built that the heating is far less difficult than is ordinarily the case. Frontage on the road is 160 ft., total depth of the ascending floors is 184 ft., and the vertical height from the bottom floor to the top is 134 ft. There are 9 floors. Ample fire protection is provided by a hydrant pressure of 200 lbs.; there being 8 plugs and 1,100 ft. of hose. On separate floors are two water tanks, each of 25,000 gallons capacity.

The accompanying engraving showing the shaft-house, headquarters on the left and general surface equipment, is from a photograph taken before the mill was built, or while its foundation was in progress. In the center is seen the new ore house prior to its enlargement, which enables one to fix the site of the mill in reference to the other buildings. The engraving of the mill shows it as it appeared in September, 1899, at the time of this visit. A coal house will be added before winter sets in, on the upper lower corner fronting the road, next to the engine room. This will be the final annex to the structure. The building across the road from the mill is the assay office and laboratory, presided over by Mr. Benjamin Hampton. It is well arranged and well lighted, and, like everything else connected with Silver King, its equipment is of the best and up-to-date.

The Silver King Mining Company is a Utah corporation with $3,000,000 capitalization in $20 shares, its principal office being in Park City. The officers are Messrs. David Keith, president; Thomas Kearns, vice-president and manager; W. S. McCornick, treasurer, and W. G. Lamb, secretary. Messrs. James Iver and Ezra Thompson are directors. Most of the shares are owned by half a dozen people, one of whom is Mrs. Susanna B. Emery, who has sprung into prominence through the fame of her fortune obtained from the mine. She is pleasantly spoken of as Utah's Silver Queen.

Dividend No. 1, of $37,500, was paid in 1893. The next year there were 4 dividends aggregating $150,000; in 1895 the premium to shareowners was $300,000; 1896, $412,500; 1897 and 1898, each $450,000, and up to October, 1899, the total dividends paid foot up $2,250,000. Here is afforded an illustration of a successful management of a mining company by practical miners. Sudden wealth has not turned their heads and the interest of share-owners is safeguarded. Another Silver King feature is that visitors are ever welcome and are allowed a trip under ground and in every way are hospitably entertained.

IRON ORE IN INDIA.—The Salem iron mining district, of the Madras Presidency, says London "Engineering," is situated about 113 miles from the sea at Porto Novo, where there is no harbor, and about 199 miles from the port and harbor of Madras. These deposits are inexhaustible, and consist mainly of magnetite and hematite mixed with quartz. The ore is capable of being concentrated by hand picking to a grade of from 55 to 60 per cent. of iron, 10 to 15 per cent. of silica, and unimportant amounts of sulphur and phosphorus. The small ore and tailings can be concentrated magnetically to 66 per cent. of iron and 3 per cent. of silica. The Chanda District of the Central Provinces contains an inexhaustible supply of fine red hematite of 60 per cent. grade, but unfortunately situated so far inland as to be heavily handicapped.

MINERAL PRODUCTION OF THE UNITED KINGDOM.

In the "Engineering and Mining Journal" for April 1st, 1899, we published the preliminary statement prepared by Dr. C. Le Neve Foster of the mineral production of the United Kingdom for the year 1898. We have now the full statement, including all mines and quarries, for the year 1897 and 1898.

The following table shows the production of ores and minerals in the United Kingdom for two years past. The tons are in all cases long tons, of 2,240 lbs., and the values given are at the mine or quarry:

Mineral Produce of the United Kingdom and the Isle of Man.

Description	1897. Quantity.	1897. Value.	1898. Quantity.	1898. Value.
Alum clay (Bauxite)....Tons	13,327	£2,823	12,402	£2,898
Alum shale.... "	611	76	13,617	1,702
Arsenic .... "	4,165	74,795	4,174	53,787
Arsenical pyrites.... "	13,137	10,734	11,144	8,144
Barytes .... "	22,723	24,117	22,225	23,253
Bog ore.... "	7,124	1,781	5,418	1,354
Chalk .... "	3,858,448	163,595	4,298,014	180,651
Chert and flint.... "	93,710	16,495	82,057	14,513
Clays .... "	12,705,196	1,453,128	14,738,474	1,616,358
Coal .... "	202,129,931	59,740,009	202,054,516	64,169,382
Copper ore.... "	7,132	18,706	9,001	25,849
Copper precipitate.... "	220	2,320	130	1,300
Fluor spar.... "	297	397	56	49
Gold ore.... "	4,517	6,282	703	1,158
Granite and syenite.... "	1,847,323	552,604	1,875,817	576,457
Gravel and sand.... "	1,356,787	111,332	1,625,690	135,533
Gypsum .... "	181,385	66,978	196,028	71,316
Igneous rocks (other than granite) .... "	2,355,554	441,391	2,602,491	465,543
Iron ore.... "	13,787,878	3,217,795	14,176,938	3,406,628
Iron pyrites.... "	10,583	4,525	12,108	4,804
Jet .... Lbs.	84	8	.....	.....
Lead ore.... Tons	35,338	275,409	32,985	267,402
Limestone (other than chalk). "	11,003,524	1,155,993	11,980,578	1,256,154
Manganese ore.... "	599	351	231	200
Mica .... "	4,983	1,727	907	454
Nickel ore.... "	300	300	.....	.....
Ocher, umber, etc.... "	14,422	12,997	19,827	13,003
Oil shale.... "	2,223,745	555,936	2,137,993	534,498
Petroleum .... "	12	29	6	14
Phosphate of lime.... "	2,000	3,500	1,550	2,713
Salt .... "	1,903,493	620,898	1,878,665	620,115
Sandstone .... "	4,964,561	1,525,039	5,242,115	1,632,786
Slate .... "	609,194	1,649,576	668,859	1,900,223
Soapstone .... "	28	98	.....	.....
Strontium sulphate.... "	14,987	4,310	12,491	3,674
Tin ore (dressed).... "	7,120	254,218	7,380	288,325
Uranium ore.... "	30	1,367	26	1,185
Wolfram .... "	125	2,008	326	15,844
Zinc ore .... "	19,278	69,154	23,552	117,784
Total values....		£72,043,801		£77,415,063

There was a slight falling off in the quantity of coal produced, owing to the South Wales strike, and the exports also show a reduction of about 500,000 tons. Mr. Foster, in his introduction to the report, again speaks of the approaching exhaustion of the coal supplies, the proper husbanding of which he regards as a question of national importance. Mr. Foster also refers to the increasing dependence on foreign countries for supplies of iron ore.

The production of metals from ores mined in the United Kingdom was as follows, the values given being calculated at the average market prices for the year:

Metal	1897. Quantity.	1897. Value.	1898. Quantity.	1898. Value.
Aluminum .....Tons	310	£45,880	310	£45,880
Copper ..... "	518	27,096	640	35,523
Gold .....Oz.	2,032	7,185	395	1,299
Iron .....Tons	4,736,667	11,394,779	4,850,508	12,740,043
Lead ..... "	26,562	332,578	25,355	332,995
Nickel ..... "	7	1,050	.....	.....
Silver .....Oz.	249,156	28,614	211,403	23,728
Sodium .....Tons	85	12,750	85	12,750
Tin ..... "	4,453	291,336	4,648	345,812
Zinc ..... "	7,049	126,823	8,574	179,482
Total values....		£12,268,091		£13,717,512

The quantity of pig iron given in the table is only that made from ores mined in Great Britain; the total iron made was as follows, in long tons:

	1897.	1898.	Changes.
From British ores....	4,736,667	4,850,508	I. 113,841
From foreign ores....	4,059,798	3,780,643	D. 279,155
Totals	8,796,465	8,631,151	D. 165,314

Only 640 tons of copper were obtained from ore mined in the United Kingdom, and while the production of lead fell from 26,562 tons in the previous year to 25,355 tons, the value of the latter was £420 more than the former. The rise in the price of tin is also indicated in the fact that while the increase in the quantity produced was only 195 tons, the increase in value amounted to £54,476.

TRANSPORT OF LIQUID AMMONIA.—The British Board of Trade have issued instructions to surveyors to the effect that ammoniacal gas compressed into liquid form should be classed with dangerous goods, and the following precautions adopted when this liquid is carried as cargo on board ship: It should only be packed in iron vessels carefully tested up to a pressure of 675 lbs. per square inch, and stored beyond the influence of heat from boilers or furnaces and remote from the living quarters. The aqueous solution of ammonia of a specific gravity of 880 at 60° F. should be conveyed in drums of about 12 gals. capacity, with an empty space equal to 5.33 per cent. left in each drum. The drums should be capable of withstanding a pressure of 66 lbs. per square inch, and should be packed in cases, with not more than four drums in a case, the interstices being filled with sawdust. For short voyages, such as to Ireland or the Continent, the drums need not be packed in cases. At a temperature above 130° F. the expansion of liquid ammonia is rapid and a risk of explosion much increased. Care should therefore be taken not to expose drums containing this liquid to the rays of the sun or to the influence of heat from boilers. It should be carried well away from the living quarters as deck cargo only, and should not be covered with black tarpaulin. Ammonia solution of a specific gravity of 959 and upwards is exempted from the operation of these instructions.

A LARGE GAS PRODUCER PLANT.

An important development in the use of gas for power is found in the large plant designed and built by R. D. Wood & Co., of Philadelphia, and erected by them at the new shops of the Erie Railroad Company in Jersey City. This plant, it is claimed, has established one fact, namely, that where the proper fuel is available, power through the medium of gas engines and producer gas made on the spot, can be continuously produced for less than one-half the cost of the same power produced by means of good steam engines and boilers, and at approximately the same first cost for plant.

The power in this case is used for electric lighting, running shop tools, etc., and has been found entirely reliable. It has been in operation for nearly six months, to the satisfaction of the officials of the Erie Railroad Company, who certainly deserve credit for the enterprising manner in which they took hold of the matter, for although it is not by any means a new thing in Great Britain and Europe, it was, to a certain degree, a novelty in the United States. The results, however, have fully justified their faith. Messrs. R. D. Wood & Co. guaranteed that the plant should run successfuly on anthracite buckwheat coal, but it has been found that very good results are obtained from a still smaller size, rice, at a lower cost. The manufacturers' guarantee was to deliver in the form of gas on an average of not less than 10,000 British thermal units for every pound of buckwheat coal consumed, which would correspond to an efficiency of production of fully 80 per cent. This would correspond to producing 80 cubic feet of gas, having 125 heat units per cubic foot from every pound of coal.

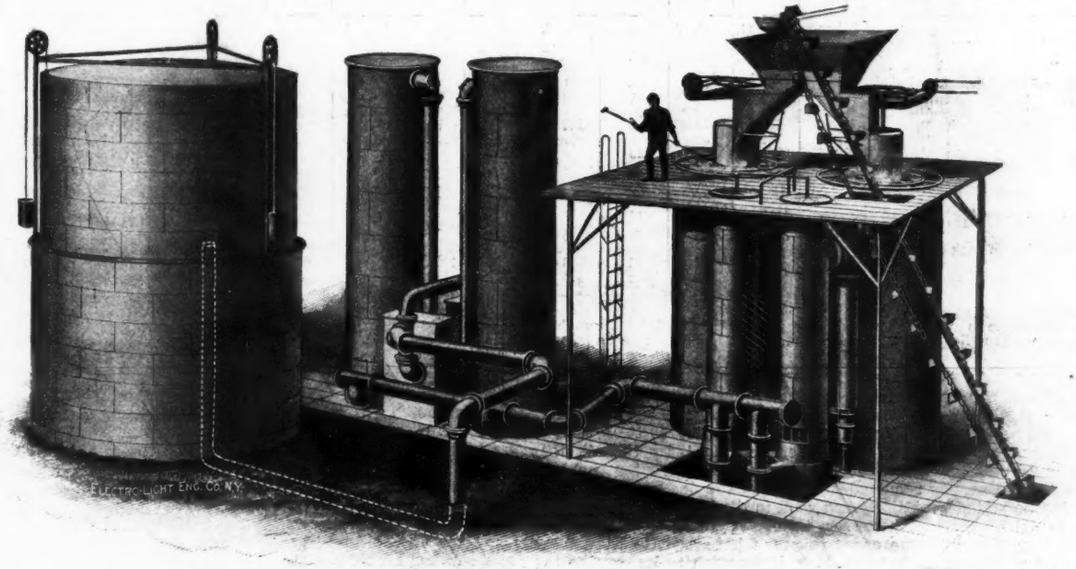
However, after the contract was made a modification in the design was decided upon by R. D. Wood & Co.'s engineers, with a view of increasing the heat energy of the gas and reducing the volume. The result of this effort was entirely successful, the gas analyzed an average of 141 heat units per cubic foot, and this from the fine rice coal. The volume of gas was also reduced, giving a net result in heat units, however, decidedly in excess of the guarantee. The Otto gas engines used with the plant are able to give an indicated horse power of between 11,000 and 12,000 heat units per hour, corresponding to a thermal efficiency in the engine of about 22 per cent., and a consumption of about 85 cubic feet of the producer gas per horse-power hour, which is equivalent to about 1.1 lbs. of coal. These data were all carefully obtained by means of measurements of fuel, measurements and analyses of gas and indicator cards from the engine, under the direction of the Erie Railroad Company's testing department. Briefly described, the apparatus consists of the following items:

Two 7-ft. Taylor revolving bottom gas producers, surmounted by Bildt patent automatic feeders. By this combination the gas is produced continuously and uniformly at any pressure desired, and the labor is reduced to a nominal amount; less than would be required in firing steam boilers of the same capacity. From the producers the gas passes through the economizers, which stand vertically, and are designed to cool the gas and impart its heat to the incoming blast of air and steam to the producer. It will be noted that while the gas enters the top of the economizer and passes out through a wash box at its base, the air is drawn by means of a Korting steam blower upward from the bottom of the economizer and out near its summit, where the hot gas enters. The wash boxes serve to prevent a large portion of the tar going into the scrubbers, and also act as automatic seals, preventing the gas from the holder passing backward into the producer.

The small amount of steam required to operate the Korting blowers can, of course, be furnished from any available source, but in this instance, as there will be periods in the year when no steam plant will be in operation, a small vertical boiler was installed for summer firing.

From the wash boxes the gas passes into the base of two larger vertical scrubbers of ordinary character, whose compartments are filled with coke, which is continually wetted by water sprays from above. The use of these scrubbers is to extract from the gas so much of the ammonia, tar and sulphur as to leave it clean enough for use in the engine. From the top of the scrubbers, however, the gas is conducted downward to the purifiers, which are rectangular boxes filled with specially prepared material, to catch the remaining particles of tar, and further arrest the sulphur carried over from the scrubbers. From the purifiers the gas then passes into the gas holder outside the building, and thence to the main leading to the engine house. The gas holder serves the purpose of balancing irregularities in production, consumption and constitution of the gas. In it a large volume of gas is carried and mixed, so that the analysis is maintained sufficiently uniform.

It will be noted that there is a drip-pot provided, into which all the separate parts of the apparatus are drained of tar, which overflows automatically into the sewer. Water used to cool the top of the producers is carried into the holder tank, thus insuring the tank from freezing in the winter time. The coal is raised from a storage bin by a Link-belt elevator, and discharged automatically into the receiver of the automatic feed. The hopper of the feed has a capacity for several hours' run, and therefore requires but intermittent charging. The feeding device runs continuously, and its speed is under easy control of the attendant, so that the amount of fuel being fed can be regulated at will. As it is fed, the coal is sprinkled or sifted in uniformly all over the gas producing surface, and to those familiar with the customary labor and difficulties of maintaining a proper condition of bed in a gas producer, the advantage of this automatic charging will be at once apparent. Not only is the labor largely reduced, but regularity in quality and quantity of gas is absolutely assured.



GAS PRODUCER PLANT BUILT BY R. D. WOOD & CO., FOR ERIE RAILROAD.

ARMORED GLASS.—Glass plates cast with wire gauze enclosed in its substance, submitted to tests at the Chemnitz Technical Institute and the Vienna Technological Museum recently, were found to possess great consistency as well as resistance to pressure, shock, and the effects of heat, the resistance being 361 lbs. per square inch, and the consistency 3,610 lbs. per square inch of the transverse sectional area. While plates of ordinary glass frequently broke under the sudden application of pressure, the strengthened glass was only cracked; and the cracks caused by rapid changes of temperature permitted neither damp nor flame to pass. Glass so made has already been used for water gauges.

X-RAY ANALYSIS OF COAL.—Prof. Henry Couriot, of the Ecole Centrale at Paris, communicates some interesting notes on the determination of the purity of fuel by Röntgen rays to the London "Iron and Coal Trades Review." The apparatus used consists of a Rumkorff coil, giving a 12-in. spark, an independent interrupter being used with powerful coils. A reducer of potential allows the use after transforming of any current. Villard anticathode tubes are preferable for the coil in which the rays furnished by a cathode in the form of a spheroconcave mirror are concentrated on the platinum or palladium plate which forms the anti-cathode. The pressure of the residual gas is so varied by absorption in caustic potash as to obtain in the tube a constant resistance to the passage of the current. Finally, a fluorescent screen is made by coating a piece of cardboard with powdered platinocyanide of barium mixed in collodion with acetate of amyl.

The sensitive plate (preferably ortho-chromatic) is placed in a wooden frame with a sheet of lead on the glass side of the plate. The frame is closed and the specimens placed on this closed frame. The exposure in the case of a plate 8 in. from the source of the rays varies 30 seconds to 5 minutes with a 16-in. spark, and for a piece of coal about 1⅜ in. thick about 15 to 30 seconds is required. For examination the specimens are placed between the core and the fluorescent screen.

For ordinary work or rough approximation it is not necessary to cut regular blocks, as pieces from ¾ in. to 3 in. thick are readily detached by the natural cleavage planes. It is better to work on pieces having a nearly constant thickness—say from ¾ in. to 1⅜ in. The sample should be so arranged that any shale stratification may be in the plane of the rays, when they will appear with greater distinctness.

It may be added that the process can be applied equally well to carbon anodes, carbons for arc lights and dynamo brushes, ozokerite and asphalt, graphite, etc.

SPEED OF DRILLING.

Written for the Engineering and Mining Journal by Alfred C. Lane.

The most economical length to make the different drill-holes, when a formation or series of beds is to be proved by a series of drill-holes, is a matter of some practical interest. Upon this question some light is thrown by a table kept with scrupulous care by Mr. W. W. Stockly, engineer of the Wendigo Copper Company. This table I reproduce herewith from my report on the "Geology of Isle Royale," Volume VI, Part I, of the Reports of the Michigan Geological Survey, with some comments. In the same report is a very elaborate account of the rocks traversed by the different drill-holes. By a careful comparative study it appears, as might have been expected, that hardness is not so much a hindrance to rapid progress as lack of uniformity in the rocks. Holes II, VI and VII, in which good time was made, had some very hard but thick and uniform beds of trap from which long cores could be obtained, and the uniformity more than counterbalanced the hardness. It is obvious that all the energy spent in grinding up core is so much wasted as to going ahead, and the rock most unfavorable to progress is a felsite conglomerate or shattered felsite which comes away in angular bits.

But the especially interesting feature is the rate of progress in the successive hundreds of feet. It appears that more time is required to drill the first 100 ft. than the second, which fact is partly due to the time required to get everything running smoothly, and partly also to the more shattered condition of the rock near the surface. The third 100 ft. is made at almost as good a rate as the second, but thereafter the time required per foot increases, about 15 hours per 100 ft.

So far as this experience goes, therefore, we may infer that it does not pay to make holes less than 300 ft. deep, and the greater the consumption of time and money required in resetting the deeper they should be. It may also be added that shattered rock is likely to prove the most troublesome to drill. This is, however, the most likely to be mineralized. Thus it may pay in some cases to put a hole a little back from the fault or zone which we wish to explore, if we wish to know also the succession of undisturbed strata, and then later locate our drill holes exactly where we wish in the disturbed zone.

It may also be of interest to compare the rate of progress made by the ordinary churn drill—oil-well drills—and the accompanying data relative to a 1,200-ft. well in Alpena. We give the depths and the time which would be required to drill 100 ft. at the rate of progress actually made at that depth. The beds for which we give the rate were mainly described by the driller as hard white or gray limestone, the prevailing rock encountered. They were the Traverse or Hamilton, and the Helderberg limestones. There was quite a little shale, but not in bodies thick enough to keep them all day except between 400 and 550 ft. The rate of progress in shale was at the rate of 25 ft. per day, or 96 hours per hundred feet. During the Corniferous or Upper Helderberg from 440 to 534 ft. the rock was very hard, and from 504 to 543 ft. was called by the driller granite. Through this cherty limestone the progress was at the rate of 370 hours per 100 ft. This rock was probably not harder than many of the silicified amygdaloids and traps, or the felsite, and we see what an advantage the diamond drill has in extra hard rock. In ordinary hard white or gray limestone, the prevailing rock, the rate of progress was slower to begin with, but decreases more slowly. Up to 1,000 ft., anyway, the diamond drill is the quicker instrument.

Depth.	Rate of progress in hours per hundred feet.	
41-107	150	
124-249	84	to 100 (a good many shale bands).
267	120	
304	70	
324	120	
339	160	
350	220	(extra hard).
363	140	
394-442	96	(mainly shale, the Marcellus).
461-544	343	to 400 (the Corniferous, i. e., Upper Helderberg, or Dundee limestone, yields much water, called granite by the driller).
568	96	(shale).
588-661	120	to 135
696	70	(shale)
711	720	
723	200	
743	120	
756	190	
772	133	
827	135	
848-940	201	
937-1064		Up and down between 135 and 200.
1074-1258		204, gradually falling off to 180.

Record of Diamond Drilling Done on Isle Royale, Lake Superior, Michigan, by The Wendigo Copper Company, Limited—Two of M. C. Bullock & Co.'s "Dauntless" Drills—1⅛ in. Core—were Used.—By W. W. Stockly.

Number of drill hole	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.	General averages
Began drilling in rock	July 21, 1891.	Aug 11, 1891.	Sept. 7, 1891.	Oct. 6, 1891.	Oct. 26, 1891.	Dec. 7, 1891.	Dec. 2?, 1891.	Jan. 4, 1892.	Jan. 28, 1892.	Mar. 21, 1892.	Mar. 7, 1892.	Apr. 23, 1892.	Apr. 22, 1892.	May 27, 1892.	
Finished " "	Aug. 31, 1891.	Sept. 30, 1891.	Oct 17, 1891.	Nov. 12, 1891.	Nov. 21, 1891.	Dec. 30, 1891.	Jan. 7, 1892.	Feb. 3, 1892.	Feb. 27, 1892.	Apr. 8, 1892.	Apr. 6, 1892.	....	May 10, 1892.	June 25, 1892.	
Hours required to drill the 1st 100 feet	82	61	71	93	91	85	68	103	117	101	134	92	66	76	89.1
" " " 2nd "	77	74	81	91	88	68	86	89	96	71	144	88	65	76	85 3
" " " 3d "	91	78	89	93	90	62	67	141	107	88	88	81	79	66	87.4
" " " 4th "	115	112	100	109	142	81	75	111	155	123	85	114	67	89	105.6
" " " 5th "	106	121	150	124	....	81	..	153	....	....	99	115	92	103	114.3
" " " 6th "	108	177	178	143	....	....	....	....	....	....	....	121	....	102	138.1
" " " 7th "	114	146		....	....	....	....	....	....	....	....	109	....	....	123.
" " " 8th "	....	....	....	....	....	....	....	....	....	....	....	117			
" " " 9th "	....	....	....	....	....	....	....	....	....	....	....	138			
" " " 10th "	..	....	....	....	....	....	....	....	....	....	....	251			
Number of "shifts" of 8 hours each	65 4	76 8	71.5	66	44 5	....	54	43	78	72	48	80	165	46	
" " " 10 "							....		....	....	....		.....	....	51
Average number of feet of rock drilled per hour	1.01	0.91	0 87	0.92	0.93	1.29	1 28	0 81	0.81	1.04	0.83	0.79	1 27	1.17	0 95
Total depth of hole in rock	700	699	619 5	605.5	415	557	440	505	470	401	550.5	1038	501	596.	*8,100.5

No. XII. was continued to a depth of 1,054 ft. The rock below 900 ft. was very much broken.

The above shows time required to do the drilling and includes all delays, such as raising and lowering rods, repairing broken machinery, etc., but does not include the time when the drills were idle to allow the drill men to engage in work which was not connected with the drilling. For the latter reason No. IX was idle for three full shifts.

* Aggregate of 14 holes.

THE MEASUREMENT OF WATER.

Where water-power is to be used, the first and most important step is to determine the flow, as well as the head and fall which can be secured. Upon these depend the power that can be expected; and the neglect of proper measurements causes much disappointment and trouble. It is not uncommon to find plants erected which the water power proved in the long way inadequate to drive.

Where it is desired to measure the flow of a small stream with a fair degree of accuracy, a good plan is to make a weir across it with an opening or notch for the water to pass. The weir can be made of planks. When it is convenient to use a single board, select one that is long enough to reach across the stream, resting in the bank at each end. Cut a notch in the board sufficient in depth to pass all the water to be measured, and not more than two-thirds of the width of the stream in length. The bottom of the notch in the board should be beveled on the down-stream side; the ends of the notch should also be beveled on the same side, and within ⅛ in. of the upper side of the board, leaving the edge almost sharp. A stake in the bottom of the stream several feet above the board or dam should be driven down to the level of the notch in the board, this level being easily found as the water is beginning to spill over the board. After the water has come to a stand, and reached its greatest depth, a careful measurement can be made of the depth of water over the top of the stake. Such measurement gives the true depth of water passing over the notch, since, if measured directly on the notch or the board, the curvature of the water in passing would reduce the depth, giving the improper measure. Although, where accuracy is not required, such a method will give a fair estimate of the quantity of water; in all cases it is best to make the measurement over the stake. The surface of the water below the board should not be nearer the notch than 10 in., that the flow of water over the notch may not be impeded. Neither should the nature of the channel above the board be such as to force or hurry the water to the board, but it should be of ample width and depth to allow the water to approach the notch and board steadily and quietly. If the water passes the channel rapidly it will be forced over the notch, and a larger quantity will pass than if allowed to spill from a large body moving slowly.

When the depth of water over the stake is known, the quantity of water passing can be easily calculated. If we take h as the height of the water level over the weir, or stake, in inches and Q as the quantity in cubic feet per minute for each inch length of weir, when contraction of area is reckoned at 62 per cent. of full area, we have the simple formula: $Q = 0.4 \times h\sqrt{h.}$

In some of the catalogues issued by Fraser & Chalmers—in which this simple plan of measuring water is suggested—tables will be found, from which the value of Q can be ascertained at once, without the trouble of working it out by the formula.

COAL EXPORTS OF GREAT BRITAIN.—The exports of coal, coke, cinders and briquettes from the United Kingdom during September reached a total of 3,763,206 tons, as against 3,506,218 tons in September of last year, and 3,197,400 tons in September, 1897. The shipments of coal during the nine completed months of the current year were 32,506,559 tons, compared with 26,255,872 tons, in the corresponding period of 1898, and 27,705,539 tons in the first three-quarters of 1897.

ELECTROLYTIC MANUFACTURE OF REFLECTORS.—Before the British Association, last month, Mr. Cowper-Coles described an electrolytic process for the manufacture of reflectors, suitable for making parabolic reflectors for search-lights. The process consists in using a glass convex mould, on which is chemically deposited a coating of metallic silver. The mould thus prepared is immersed in an electrolyte of copper sulphate, the mould being rotated in a horizontal position, the number of revolutions being about fifteen per minute. The copper adheres firmly to the silver, and together they form the reflector, which is subsequently separated from the glass mould by placing the whole in cold or lukewarm water, and then gradually raising the temperature of the water to 120° F., when the metal reflector will leave the glass mould.

BRITISH COLUMBIA—XXII.
MINERAL RESOURCES AND DEVELOPMENT ON THE UPPER COLUMBIA.

Special Report of W. M. Brewer, Traveling Correspondent.

(Concluded from page 516.)

The character of the ore found in the prospects in the Windermere Division is generally galena and gold-copper, or else sulphide ores, carrying gold and copper values in the quartz gangue. The values of galena ores run, from a few ounces in silver with low grade values in gold, and 40 to 60 per cent. in lead, up to about 200 oz. in silver and 40 to 60 per cent. lead, with varying gold values. The values of the gold-copper ores run from low grade up to about $60 per ton. Of course specimens can be obtained from these prospects which carry very much higher values, but it is the commercial values of the ore which have to be considered, rather than the exceptional values carried by picked specimens.

It is generally understood that two lines of railroads—one the Canadian Pacific—have been projected; in fact, preliminary surveys have been made, with the intention apparently of forming a connection between Golden and Fort Steel on the Crow's Nest Pass Branch of the Canadian Pacific, but delay in construction is apparently caused by the desire of the railroad company to ascertain the tonnage which would be available. A capitalist, before investing in this district, wants, of course, to ascertain definitely something with regard to transportation facilities, or else to wait until adequate facilities have been furnished.

ROCK FORMATIONS ON NORTH FORK OF TOBY CREEK, B. C.

Under present conditions, any capital invested in the Windermere Division would be lacking in earning capabilities until that time.

As you follow down the Columbia River towards the main line of the Canadian Pacific, you pass within short distances of several camps, in which prospecting has been carried on for some years past. These are Beaver River, Quartz Creek, Bald Mountain, Prairie Mountain, Badger Creek, Logan Creek, McMurdo Creek, Middle Fork, Bobby Burns Creek, Carbonate Creek, Carbonate Mountain, Cariboo Creek, Spruce Creek, Fifteen Mile Creek, Irving Butte, Jubilee Mountain, Spillimachene Mountain, Bugaboo Creek, Mount Stephen, Mount Field, Otter Tail Creek and Bear Creek. In all of these camps locations of mineral claims have been made, and more or less work carried on. The ore bodies consist principally of galena, though on a large number of the claims gold-bearing quartz occurs, and in some instances it is claimed that this is free milling. On Fifteen Mile Creek the Certainty Gold Mining Company is prosecuting development work.

These camps feel the necessity of better transportation facilities than they have at present, and from representations made to the writer he is also of opinion that the camps would be in a much more flourishing condition to-day if more work was done of a systematic character on the claims, and a less number of claims staked per prospector.

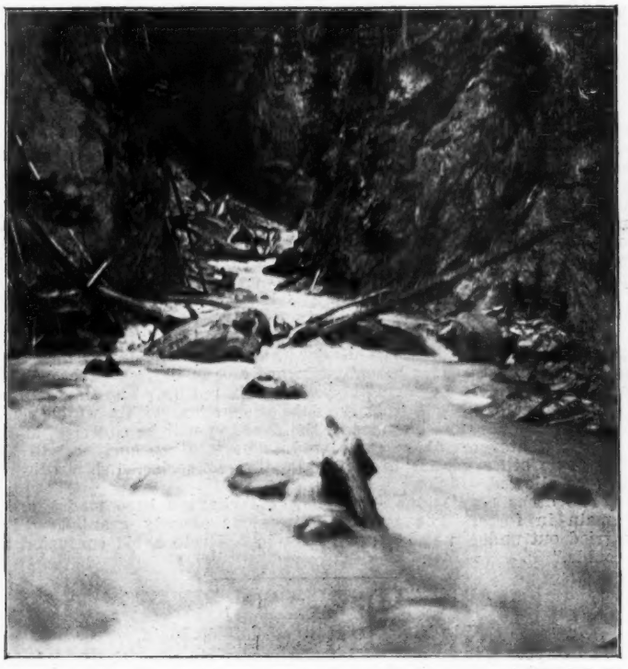
The greatest curse to the Province of British Columbia to-day is that clause of the Mining Act which permits indirectly the re-staking of claims, instead of compelling the original locators to either perform the necessary assessment work or else relinquish the claims absolutely. There is no doubt that great consideration should be extended to the pioneer prospectors in these and other camps in British Columbia, because of the hardships and difficulties met with in carrying on exploration. But at the same time, these men would be immensely better off if they were compelled to perform actual work on their prospects, which would enable capitalists to determine their value. Instead of this, the average prospector performs as little work as possible, and asks a man an exorbitant price for the claims he has staked, invariably insisting on a cash payment before an investor has an opportunity to determine by development work whether the prospect possesses any value whatever.

An incident which has occurred lately in the Windermere Division of East Kootenay should carry with it a lesson which should receive very serious consideration. In the Spring of 1899 a promoting syndicate took a bond on the Red Line mineral claim on Boulder Creek, a tributary to Horse-thief Creek, for $50,000. A very limited amount of work was done on the claim, and it was during the summer re-bonded by this syndicate to ex-Governor McIntosh, the representative of London capital, for $1,000,000, with $5,000 cash forfeit. The cash payment was made, and subsequently an engineer was sent to report on the property. As a result of this report, the bond held by Mr. McIntosh was abandoned, and I am reliably informed suit was commenced against the promoting syndicate for the return of the cash payment, together with $10,000 in damages.

Such transactions as these are sufficient to give any mining district a very serious set-back, and there is no doubt at all but that many of the districts in British Columbia to-day owe their lack of prosperity to the fact that capitalists have absolutely no confidence in the representations made by promoters.

CHINESE MINING REGULATIONS.

United States Minister Conger sends to the State Department from Pekin, August 12th, 1899, copy of amendments to the regulations governing railways and mines in China, sanctioned and promulgated in July. The inclosure in the present despatch is in the form of a memorial drawn up by the Bureau of Railways and Mines in conjunction with the Tsung-li Yamen. It reads, so far as relates to mines, as follows:



CANYON ON A TRIBUTARY OF TOBY CREEK, B. C.

"As to mines, since permission was given to work them, it has been found necessary to make additions to the regulations which are here explained. The formation of stock companies by Chinese and foreigners and the permission of the Government to work mines show that the Government's desire is to treat all with the same kindly feeling, irrespective of nationality; and that not one merchant alone, but all merchants, may share in the profits of mining. Recently, Chinese and foreigners who have applied for mining concessions have (as the regulations permit all companies to survey and locate mining property) selected and located mines in a reckless manner in the prefectures and districts, without clearly defining the place or places, the district, and the extent or area of the mining property; hence, under this regulation dishonest merchants, in league with others and by false representations, could get the better of others and monopolize the mining lands, while the honest, upright and worthy gentry and merchants would be at a disadvantage, and not be able to devote themselves to mining. This would be greatly at variance with the original purpose and intent of the law governing mining operations. It should therefore be explicitly made known that such a system must be regulated and restricted. In future (concessions already granted, which must be carried out according to the terms of agreement, excepted), when mining concessions are applied for, they will only be granted for one place in a district, not several places, and thus prevent mining operations from getting into the hands of greedy persons by their locating mines in whole prefectures and districts. Such a course will give to all a chance to reap benefits from mines.

"In the former regulation (article 13) it is stated that 'the control of mining companies, irrespective of the foreign capital concerned, must

remain in the hands of Chinese merchants,' and (article 9) 'there must be at least a proportion of three-tenths of the shares owned by Chinese.' When this proportion is raised, foreigners may be invited to buy shares. Although this rule was for the purpose of encouraging the people to embark in the work of mining and to open up a new line of business, still the difference between the proportion of three-tenths held by Chinese and seven-tenths held by foreigners should be taken into account, as it is to be feared that the control of mining interests would gradually get into the hands of foreigners. It is right, therefore, that the regulation should be modified and regulated in this respect.

"Hereafter (existing concessions exempted), Chinese and foreigners should have equal proportions of the shares in mining companies—each to hold one-half of the shares—before mining operations are commenced, thus avoiding partiality. The direction of mining companies must rest, however, in the hands of the Chinese merchants. If foreigners object to this system and ask that the direction be placed in their hands, the request will not be entertained.

"Further, in the former regulation (article 6), it states: 'When applications are made by Chinese gentry or merchants to the local officials for permission to engage in mining enterprises, if their applications are not in opposition to the regulations, they may be submitted to the Government board. The local officials have no power to grant such applications. If such applications are made to the board direct, inquiries must be made through the local officials of the applicants' district, and only such applications will be granted in which the report of the local authorities is of a favorable nature.'

"The object of this regulation is, that Chinese merchants making application for mining concessions, must first wait until a thorough investigation has been made and permission granted them before inviting foreigners to take shares in mining companies. If, before application has been made, or if application has been made and refused, they issue shares to foreigners and join them in mining operations, and on investigation being made, it is found that there are difficulties in the way of carrying out the work, a useless expenditure of money for surveying, etc., shall have been incurred, and a disturbance will inevitably result. It is deemed right, therefore, that this regulation should be revised as follows: In future, when Chinese merchants make application to work mines, they must wait until an investigation has been made by the officials, and if there is nothing to hinder work being carried on, and permission has been granted, they may invite foreigners to take shares and draw up a mining contract. The contract, however, must be submitted for the approval of the Government bureau before operations are commenced. Permission will not be granted to companies to work mines, if they are formed before making application to the bureau to carry on mining operations.

"Again, by regulation (article 8) 'all enterprises sanctioned by the board must be commenced within six months of the date of the sanction, otherwise the sanction will be withdrawn, unless it can be shown that the delay was unavoidable.' Under this regulation, delays may occur on trivial excuses being brought forward and in that case, the working of the mine is done in name only, and not in reality. The time has now been fixed at 10 months from the date of sanction, within which period, if operations are not commenced, the sanction will be canceled, and no excuses whatever will be considered. The local authorities will then find some other parties to undertake the enterprise, and no disputes will be allowed.

"The other regulations (excepting the changes here made) are to remain in force. The mining concessions already granted will be carried out under the old regulations, in order to avoid confusion and trouble."

ABSTRACTS OF OFFICIAL REPORTS.

Rio Tinto Company, Limited, Spain.

The directors issue a brief interim report covering the first half of the current year. It is dated London, October 5th, and says: "The demand for pyrites has been on an increasing scale, and the deliveries in the United Kingdom, the continent of Europe and the United States have been greater than at any time in the past. The refined copper turned out at Cwmavon has been satisfactory in quality, and has met a good demand, but the quantity produced has not, up to the present time, been so great as for the same period of last year. There has been a further rise in the value of the metal since the annual report was issued in April last, full advantage of which has been taken, and the market continues fairly steady at almost the highest figure reached, and gives promise of results for 1899 considerably in excess of those of 1898.

"The directors have now the pleasure to declare, out of the estimated profits of the year, a dividend for the six months ended June 30th last, of 2s. 6d. per share, less income tax, on the 5 per cent. preference shares, and an interim dividend of 35s. per share, free of income tax, on the ordinary shares, both payable on November 1st next. This is at the rate of 35 per cent., or 70 per cent. for the year."

United Alkali Company, Limited, Great Britain.

The report for the year 1898 shows that the company's earnings have suffered greatly from the United States tariff, which came into force on August 1st, 1897, and by the competition of a German syndicate, which sold bleaching powder at a price below the cost of production, compelling the United Alkali Company to withdraw from the Continental markets. To rehabilitate its business the company appropriated £650,000 ($3,250,000) for new machinery and for erecting works in the United States. The company has a capitalization of £2,893,430 in ordinary shares, £2,825,240 in preferred, and £2,500,000 in 5 per cent. debenture stock; total, £8,218,670. The assets consist of £7,829,048 in freehold property, works, etc.; £786,835 in stock of materials, £110,471 in securities and £151,674 invested in subsidiary companies, making the total assets £8,878,028. Deducting from this £650,000 as depreciation of reserve fund written off, leaves a balance of £8,288,028. The profit after meeting debenture interest in 1898 was £198,263 (irrespective of £22,189 brought forward. Sum carried forward, £29,277). This profit compares with £213,363 in respect of 1897. The dividend paid on the preferred shares was the same as in the previous year, namely, £191,175. No dividend was paid on the ordinary shares. The reserve fund remains at £57,781—the same as in 1897.

The outlook of the company is more promising. Further, the contract between the Castner-Kellner Company and the German syndicate as regards bleaching powder terminates next summer, which is expected to advance the price of the English company's product.

Linares Lead Mining Company, Spain.

The report of this company for the half year ending June 30th, 1899, shows that work was carried on steadily at the Pozo Ancho and Quinientes mines, and the development work has shown new ore bodies. The ore in sight is now estimated at over 7,000 tons. The ore raised at Pozo Ancho was 1,656 long tons; at Quinientes, 1,134 tons; making a total of 2,790 tons.

The receipts show as follows: Lead sold £27,113; carbonates sold, £3,105; rents, £138; increase in metal on hand, £2,901; total, £33,317. The expenses were: Mine costs, £15,122; smelting, £2,494; freights and export duty, £3,548; expenses in England, £1,020; total, £22,184. This left a profit of £11,133 for the half year, to which is to be added £1,864 from previous year, making a total of £12,997. Payments were £9,375 for dividends (12s. 6d. a share); £2,000 for depreciation, etc.; total, £11,375, leaving a balance of £1,622 forward.

At the Cordova smelting works the total quantity of ore smelted during the half year in the reverberatory furnaces was 3,183 long tons. The average assay of the ore was 77 per cent., and the first fire produced 2,073 tons of first class lead, equal to a produce of 65.13 per cent. of the ore smelted, or 84.58 per cent. of the lead contained in the ore as per assay. The slags and fumes from the ore smelted are estimated to contain 255 tons of lead, which, with the first fire lead obtained from the reverberatory furnaces, is equal to a total produce of 95 per cent. The coal consumed in smelting above parcel of ore was 1,210 long tons. This gives an average of 849 lbs. coal used to the ton of ore.

RECENT DECISIONS AFFECTING THE MINING INDUSTRY.

Specially Reported for the Engineering and Mining Journal.

MINING PARTNERSHIPS IN COLORADO.—A mining partnership exists between persons jointly engaged in working a mine under an agreement by which some of them are to furnish the money, others to do the work, and all to share equally in the profits, or the result. A member of such a mining partnership has authority to employ a laborer to work in a mine belonging to the firm.—Lyman vs. Schwartz (57 Pacific Reporter, 735); Court of Appeals of Colorado.

LEASE OR LICENSE SHOULD BE FILED FOR RECORD.—A lease or license on land in Ohio for natural gas or petroleum, until filed for record as required by the laws of Ohio (Revised Statutes, section 4112a), is without effect, either at law or in equity, as against a subsequent lessee or licensee, or other third person acquiring an interest in or lien on the land, though he took with notice of such prior unrecorded lease or license, unless the person claiming under same was at the time in the actual possession of the land.—Northwestern Natural Gas Company vs. City of Tiffin (54 Northeastern Reporter, 78); Supreme Court of Ohio.

APPLICATION OF ASSESSMENT WORK.—Although the owner of a mining location, originally valid, has failed in his assessment work, so that the ground is open for relocation, yet if before any valid relocation is made by others or after the abandonment of the valid relocation the original locator or his grantee resumes possession, and does the necessary work, his rights are revived under the original location.

Assessment work for a mining claim may be done on an adjoining claim, where it is shown that it was intended for such claim, and that the work done would inure to its benefit.

In an action involving the title and right of possession of a certain mining ground, a deed given by the original locator to plaintiff prior to the commencement of the action, for the purpose of correcting the description, is properly admitted in evidence, as bearing on the rights of the parties.—Klopenstine vs. Hays (57 Pacific Reporter, 712); Supreme Court of Utah.

MINING LAWS OF OREGON.—Under the laws of Oregon (1 Hill's "Annual Laws," section 51) providing that "actions at law shall be commenced by filing a complaint with the clerk of the court, and the provisions of Sections 14, 15, shall only apply to this subject for the purpose of determining whether an action has been commenced within the time limited by this Code," section 14, providing that "an action shall be deemed commenced as to each defendant when the complaint is filed and the summons served on him," and section 15, providing that an attempt to commence an action shall be equivalent to a commencement, where the complaint is filed and the summons delivered with intent to be served, apply to the statute of limitations; and since a suit to foreclose a miner's lien is not governed by such sections, such suit is commenced by the filing of the complaint.

The same laws (page 1906) providing that miners' liens shall not bind a mine upon which the labor is performed for a longer period than six months after the claim for same shall have been filed, unless within that time a suit be brought for the foreclosure, provides an exception to 1 Hill's "Annual Laws," section 16, providing that absence or concealment of defendant shall prevent the running of the statute of limitations, and the absence from the State of the agent of defendant mine does not prevent the running of the former statute.—Burns vs. White (57 Pacific Reporter, 637); Supreme Court of Oregon.

BROWNE'S VACUUM BAILING TANK.

The handling of the water which silts and flows into the opening when sinking a shaft is frequently a source of delay. The usual practice has been to lift and force the water to the surface by means of suction and lift or force pumps with reciprocating buckets, pistons or plungers operated by steam, compressed air, electric motors, etc., or by rods actuated by machinery on the surface. The pump is placed in the shaft 15 to 25 ft. above its bottom, and draws the water by suction through a strainer and suction hose to the pump cylinder, whence the bucket piston or plunger lifts or forces it upward. While the work of sinking is in progress, it is not practicable to provide more than a very small sump in the bottom of the shaft for the water to collect in and to pump from; the pump must therefore adapt itself to drafts of air, water, mud, sand, etc., resulting in much wear to the reciprocating parts and necessitating frequent repacking, repairing and delays. The pump must be lowered from time to time as the work progresses and the water columns and power supply pipes must be extended and re-connected. During blasting operations, the pump must be removed or at least protected by a bulkhead of heavy timbers, otherwise serious injury to the pump from flying missiles is very probable.

The loss of time thus caused by handling, adjusting, etc., is no inconsiderable item in the expense of sinking the shaft. After the shaft is completed a deeper sump may be provided from which the water may be dipped by means of bailing tanks, water buckets or kibbles and hoisted to the surface, but during shaft sinking operations the maintenance of a sump sufficiently deep to dip from is impracticable.

The vacuum bailing tank illustrated in the accompanying cuts was patented by Mr. Ross E. Browne and assigned to Fraser & Chalmers. By its employment the difficulties and inconveniences usually experienced in removing limited quantities of water from the uncompleted shaft are largely obviated. The apparatus consists of a large vacuum tank which may be lowered and hoisted rapidly in the shaft by means of an ordinary hoisting or winding engine located on the surface. The tank is lowered to a point near the bottom of the shaft and connected by means of a coupling with the vacuum pipe leading to the vacuum pump on the surface, which may be driven continuously or intermittently by steam, compressed air, electric current, water power or otherwise, as may be most convenient. The operation of this pump produces the vacuum in the tank which draws the water from the shaft bottom through a strainer foot valve, suction hose and suction valve. When the tank is filled with water, the coupling is loosened and the tank is then hoisted to the surface to be emptied and returned to the bottom of the shaft, where it is reconnected with the vacuum pipe and is then ready for re-filling.

The coupling is preferably connected with the vacuum pipe and with the tank by means of flexible hose so as to occupy a position readily accessible to the miner, and is most suitably constructed to cut off the air-intake when uncoupled and open the same when coupled. Similar couplings are in common use for other purposes at the present time. The tank is best provided with shoes to run in guides in the shaft; its construction also involves the use of a self-dumping valve operated by a rod passing through a stuffing box at the top of the tank and connected with a lever which is automatically tipped by a stationary guide at the surface, the discharging water being carried through a water trough. Similar arrangements for automatically emptying the tank are commonly used in bailing. Additional hoisting capacity is not required where double hoists are already provided—one for each of two compartments—as is very frequently the case. The utilization of one hoisting compartment for bailing while sinking as a rule is not objectionable; shafts generally have two or more compartments, only one of which is used for hoisting the rock from the bottom of the shaft.

The tank is described as specially designed for use in vertical shafts, but it may be adapted to inclines. It is claimed for this apparatus that it lifts air, water, mud, sand, etc., with less than the usual amount of wear and tear, necessitates less labor in handling and is more easily kept in order than the sinking pumps in ordinary use.

The manufacturers of this apparatus are Messrs. Fraser & Chalmers, Chicago and London.

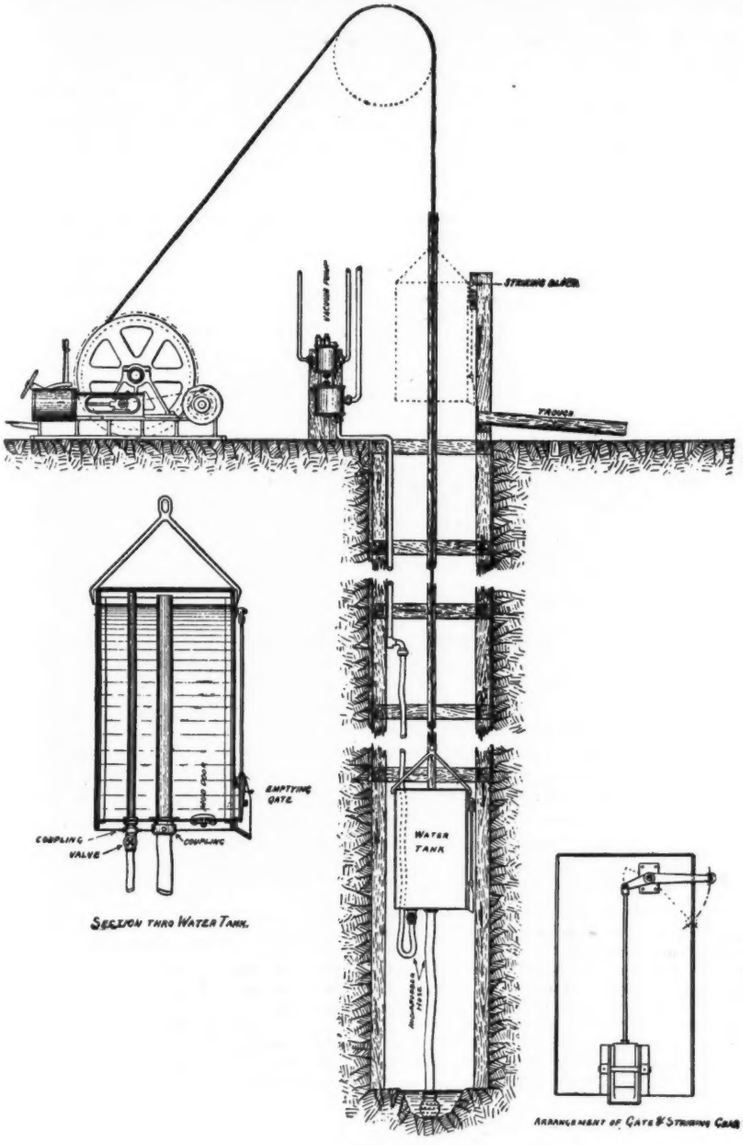


FIG. 1.

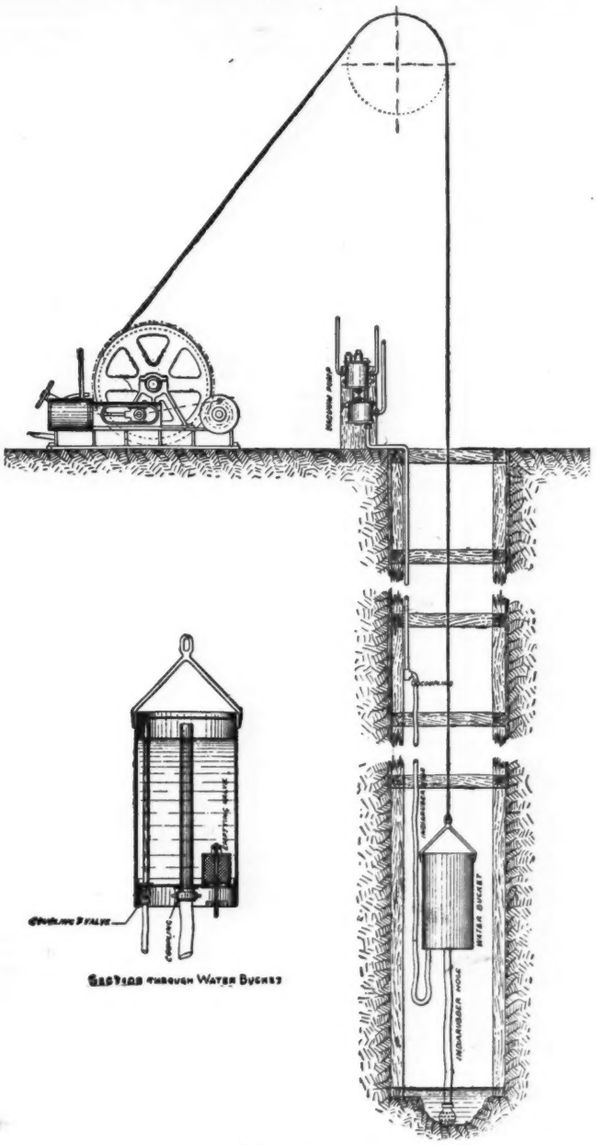


FIG. 2.

BROWNE'S VACUUM BAILING TANK.

PUMPING IN DEEP MINES.

The question of the best manner of utilizing the horsepower of a boiler to raise water from a mine remains an open one. Experience has shown the merits and faults of the methods generally used, but mine owners and mining men are too often governed by old ideas. Generally speaking, in the systems most frequently used very nearly half the fuel cost is used in getting power to the pump. The methods used in ordinary mining are by a Cornish pump, by an underground pumping engine taking steam from the surface, by bailing with a hoisting engine and buckets, by electricity and by compressed air. Other methods used are the hydraulic pump and the underground engine and boiler directly connected to the pump; this last including the use of gas engines.

Regarding the Cornish pump, it is fair to say that this device is falling more and more into disuse. It was at one time common enough in all the mining districts of this country; in the coal mines of Pennsylvania, the iron mines of Lake Superior, and the precious metal mines of the West. But its downfall has been very rapid, and it is fair to suppose that no mining engineer would dream of suggesting one for a mine 4,000 ft. deep. What was a famous pump in its day may be seen at a colliery near Scranton, Pa.; its work is done now by a steam pump occupying but a trifle of the underground room of the old pump and its connections, and working far more efficiently. The pumping plant at the Chollar shaft on the Comstock Lode, with its 2,000 ft. or more of heavy rod continually getting out of order, racking the engine and necessarily running slow and giving but a small efficiency, is remembered by all familiar with the history of mining on the Comstock. The most impressive failure of the Cornish pump, however, is that at the Chapin Mine in Michigan. Here the water from a shaft some 600 ft. deep was handled by a steeple tandem-compound Corliss engine built by a firm of international repute. This plant was erected in 1891, yet within 8 years it has been replaced by an underground pumping engine with mechanically operated valves, taking steam from the surface.

The mine pump generally seen is still a crude device for utilizing the boiler power, particularly if small; but its imperfections often fail to bring about its replacement by better devices. However, improved pumping engines, with valves mechanically operated, that drive the water in a steady stream and prevent any shock when working against very great heads have been devised, and are giving excellent service. The loss by condensation between the boiler and the pump can be kept down by use of proper insulation. In any case, however, the loss will probably not be less than 20 per cent., and may be as high as 40 per cent. There is also a loss of energy by cooling aside from actual condensation which it is hard to determine. So that in a shaft 4,000 ft. deep we could not expect more than 70 per cent. the boiler horsepower in the steam cylinder of the pump, and without constant attention we might get less than 50 per cent. In an air compressor of best design the loss in power between the engine and the compressor has been reduced to as little as 14 per cent. The losses through clearance and in transmission by leaks and friction vary widely; the best results would not probably be under 8 per cent.; they might easily be as high as 40 per cent. The loss by friction in the motor and pump underground would be about 15 per cent. more. Taking off these per cents. in order and making the most favorable showing, this would leave about 67 per cent. available for pumping. In case, however, the air were reheated at the bottom of the shaft and between the high and low pressure cylinder of the pump itself there would be a decided gain in the efficiency, and in case the air were heated to 250° the total efficiency, after making allowance for any cooling of the air between the compressor and the pumping engine, would be perhaps 75 per cent.

The plan of hauling water by an engine stationed above ground, although long used in unwatering a mine, has been tried but little for mining work on a large scale. The plan is not adapted for all mines, but under certain conditions has given excellent results. In the anthracite coal-fields of Pennsylvania, for instance, this system has been tried at several collieries, taking water from shafts fully as deep as 800 ft. By using a hoisting engine with Corliss valve gear, thus making the motor as economical as possible, by hanging the buckets in balance and using tapered drums on the hoist, thus lightening the engine's duty at the beginning of the lift, some very economical results can be obtained. The wear and tear of rope is lessened by using sheaves of large diameter, and the system has the merit of quick and easy repairs, it being easier to replace a rope than a length of broken column pipe; the plant, moreover, is easily installed. In the case of a deep shaft, 2,000 to 4,000 ft., there would be serious disadvantages. To handle a large flow of water, say 200 gals. or over a minute, the bailer, if the rope speed were an average of 2,000 ft. per minute, would take one to two minutes to ascend the shaft and another minute say to fill and empty. Consequently it would have to be of large size to handle any considerable flow of water. Handling the water thus intermittently instead of continuously means an increase in the horse power required to move a given volume in a given time. Again, many mines have a heavy flow of water in the upper levels, while the lower workings are comparatively dry. In such cases to avoid hoisting all the water from the bottom, it would be necessary to stop the bailers part way up the shaft, an arrangement offering many practical difficulties. But in Pennsylvania an efficiency 20 per cent. better than that of a pump taking steam from the surface, is claimed for this system.

Electricity, which is in such favor for the transmission of power, has many advantages for mine work. A wire down a shaft takes up little room, can be so insulated as to reduce leakage to a minimum, and can be quickly repaired, while its cost is a very slight fraction of that of an air or steam pipe-line. The loss in efficiency in the dynamo may be put at about 15 per cent.; with the most improved type of transformer and line about 3 per cent.; 8 per cent. in the motor, and probably 8 per cent. or so in the gearing, etc., of the pump; thus giving a useful horse power at the pump of about 69 per cent. of that of the boiler.

A hydraulic system which is reported to give good results in several Scotch collieries permits two columns of water to take the place of a pump rod. As water is incompressible a plunger at one end of a pipe will operate a plunger at the other end. In this system an engine on the surface is coupled by gearing to two hydraulic cylinders in which work two plungers with one water pipe coupled to each cylinder. At the bottom of the shaft there are four more hydraulic cylinders and plungers of half the area of those on the surface, the four plungers underground equal in area to those on the surface, and in between these and coupled direct by a cross-head are the pumps, barrels and plungers. By this method it is claimed an efficiency of 68 per cent. of the horse power in the steam cylinder of the engine on the surface has been made available for actual duty in the pump below. This system in a deep shaft would evidently be costly to install and probably give difficulties in maintenance, while there is room for doubt whether the efficiency claimed for it could be realized.

So far as efficiency goes the most economical system of course would be to install both engine and boiler below ground. Thus losses by condensation or leakage would be reduced to a minimum. In case the pump plungers were connected direct to the engines, either to the crank-shaft by means of connecting rods or to an extended rod the total efficiency developed in the cylinder of the engine should be fully 87 per cent. of the boiler horse power. This arrangement, however, though economical, would be often impracticable. In the case of a steam engine burning coal at the foot of a deep shaft the matter of getting down fuel might be easily solved, but there would be ashes to remove and the amount of room needed for the plant might not be easily secured.

Probably a gas engine directly coupled to a pump would be the most economical arrangement in the present state of engineering practice. Small pumps working against low heads are already in place in mines. One such at a bituminous coal mine in Pennsylvania is reported to handle 5,500 gals. of water per hour, through 750 ft. of 3-in. pipe, elevating it 26 ft., at a total cost of 34¼c. per day. The application of the gas or gasoline engine to a high duty pumping plant offers few difficulties.

QUESTIONS AND ANSWERS.

Queries addressed to this department should relate to matters within the special province of this periodical, such as mining, metallurgy, chemistry, geology, mineralogy, machinery, supplies, etc. As it is manifestly impossible to devote space to all the questions and notes constantly received, preference will be given to topics which seem to be of interest to others besides the inquirer. We cannot here undertake to give professional advice on problems requiring special investigation and which should be obtained from a consulting expert. Nor can we undertake to give advice about mining companies or mining stocks. Brief replies to questions will be welcomed from correspondents. While names will not be published, all inquirers should send their names and addresses. Anonymous questions will not be answered. Preference will, of course, always be given to questions submitted by subscribers.—Editor E. & M. J.)

Gold in Cuba.—I have been informed that gold exists in Cuba, and that companies are being formed to work gold mines there. Is this true?—O. N. R.

Answer.—The best available information is that in the province of Santa Clara the early Spanish settlers did obtain some gold from small streams in the neighborhood of Sagua la Grande and Cienfuegos. These placers seem to have been given up as unprofitable many years ago, and no work has been done during the present century. There have also been reports of placer gold in the province of Puerto Principe, but the indications actually found have been too slight to encourage further work. Placer gold has been found near Holguin, in Santiago Province, and some mining was done there in early days. The field was abandoned long ago as unprofitable.

We know of no mining companies organized to work gold deposits in Cuba.

Fineness of Gold.—I see frequently in the "Engineering and Mining Journal" the expressions "fine ounces" and "crude ounces" of gold. Also that gold is a certain number—as .900, .875 or so on—fine. I presume these are generally understood, but they are not clear to me, nor perhaps to others. Will you explain them for new readers?—J. W. McL.

Answer.—It is customary to express the fineness of gold in thousandths. Thus gold 1,000 fine is pure gold; .925 fine contains 925 parts gold out of 1,000, the remaining 75 parts being some other metal or metals; and so on.

The expression "fine ounces" in the "Engineering and Mining Journal" means pure or fine gold. "Crude ounces" means the bullion as very frequently reported by mining companies, which may be of varying fineness. In this country it is usual to report results either in fine gold or in money value; but many foreign companies—as in South Africa—report bullion or crude ounces only. Fine ounces are, of course, the proper standard.

Wear of Stamp Shoes and Dies.—Is there any way of getting at the average wear of shoes and dies in a gold stamp mill?—W. W. K.

Answer.—In Rickard's "Stamp Milling of Gold Ores," pages 205-215, the author gives some comments on this subject. He gives a table showing the wear at a number of mills in different localities and under different conditions of practice. Commenting on this table, the author says: "The wear of the shoe varies from 3.6 oz. to 21.3 oz. of metal per ton of ore crushed, while that of the die has a minimum of 3 oz. and a maximum of 7.9 oz. In the matter of expense the least cost

of the shoe is at the rate of 2.02c. and the greatest 7.64c. per ton of ore, the minimum cost of the die is at the rate of 0.71c. and the maximum 5.5c., while the combined cost under this head varies from 4.06c. to 13.14c. for every ton of ore crushed."

The reasons for the wide variation are found in the differing hardness of the ores, in the condition in which ore is fed to the mill, and in the material of which shoes and dies are made. From this it will be seen that no general average can well be established.

Treatment of Manganese Ores.—Is there a process for the extraction of manganese from manganiferous ores? Our ore is high in phosphorus and moisture. It is necessary to dry it, and if there is a process to extract the manganese it might be well to put up a plant, as we have a large body of it. A number of analyses show over 50 per cent. metallic manganese; in another case 12 per cent. manganese and 48 per cent. iron are found. Phosphorus runs 0.126 to 0.258 per cent. Can you recommend any work on the subject?—H. H.

Answer.—We do not understand you to mean the obtaining of the manganese from the ore by smelting, but rather the improvement of the grade of the ore by freeing it as far as possible from injurious substances. Probably washing and some system of concentration would help. Much depends on the ore itself, and it would be well for you to consult experts as to the methods best suited to your particular ores and location, etc. Refer to the "Engineering and Mining Journal," September 30th, 1899, page 402, where you will find further information.

Much information about manganese ore can be obtained from the volumes of "The Mineral Industry." There is no work especially devoted to the treatment of those ores.

"Dollying" Quartz.—I see in a recent report from Western Australia in the "Engineering and Mining Journal," an item of gold obtained from "specimens dollied." Will you tell me just what "dollying" means? How is it done?—R. P. J.

Answer.—The dolly is a term applied in Australia to a primitive contrivance used by prospectors in crushing small quantities of quartz. It is a stamp mill on a small scale. Usually it consists of a head, which may be a piece of iron as heavy as can be managed; or if that cannot be had, a piece of the hardest rock that can be procured. This is suspended from a small sapling which is bent over in order to utilize its elasticity in lifting the head. The die may be also a lump of iron, an old die, or a hard stone, according to circumstances. The crushing is done by working the head up and down. Of course, this contrivance is only of use in crushing small quantities.

While this brief description will give you an idea of the original dolly, we may say further that the term dollying is sometimes applied to any small lots of quartz crushed by hand, whether an actual dolly is used or not. In the Western Australian case the specimens are picked pieces of ore specially rich in visible gold, which is crushed by hand and then panned out.

Small Dams.—I want to build a dam on a small stream to secure some water-power and also to form a small reservoir. The material at hand is chiefly mixed clay and sand, and rock. Can you give me any suggestions?—J. L.

Answer.—Without knowing all the particulars, it is not possible to give more than some general hints. A masonry dam is to be preferred, of course, if circumstances will warrant the expense. A stone center or core with earth facing has given very good results. If earth or clay alone is used, care must be taken to tamp the earth down well and make a solid bank. An earth dam needs constant watching to prevent small leaks developing into big ones. Moreover, an earth dam must be faced with stone or plank, or it must be carried well above water level and a large spillway provided. It is an axiom in dam building that no earth dam can withstand for any length of time the action of water running over its crest, no matter how small the stream at first. We have had abundant illustrations of this fact in this country, the best known being the terrible Johnstown disaster in Pennsylvania.

A very good dam for a stream of moderate size is the log or crib dam, filled in with earth and rock. An excellent example of such a construction is found in the "Engineering and Mining Journal," November 28th, 1896, page 509.

Cyanide Process.—Is there any complete list of the mines and mills in the United States which use the cyanide process? How much cyanide is used annually in the United States for mining purposes? What is the per cent. required? Is any potassium cyanide manufactured in this country?—L. M.

Answer.—1. There is no such list as you mention in existence. You can find the names of a large number of companies by looking over the files of the "Engineering and Mining Journal." The Mercur District in Utah is that in which the cyanide process is most largely and generally used.

2. Figures for the total consumption of cyanide are not obtainable. The large chemical importing houses, or some of them, might give a fairly close estimate, but are not inclined to do so usually.

3. The strength of the cyanide solution varies according to the ore on which it is used. It is usually from 0.1 to 0.5 per cent., that is, from 2 to 10 lbs. per ton.

4. A small quantity of potassium cyanide is made in the United States, by the Roessler & Hasslacher Company. The greater part of that used is imported from Germany.

You will find many particulars in relation to this subject in F. L. Bosqui's "Practical Notes on the Cyanide Process," which is brought well up to date.

PATENTS RELATING TO MINING AND METALLURGY.

UNITED STATES.

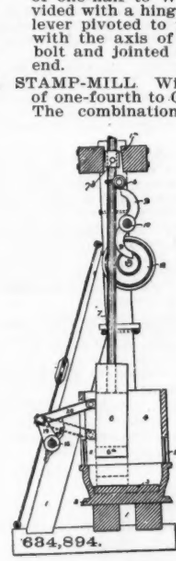
The following is a list of the patents relating to mining and metallurgy and kindred subjects, issued by the United States Patent Office. A copy of the specifications of any of these will be mailed by the Scientific Publishing Company upon receipt of 25 cents.

Week Ending October 17th, 1899.

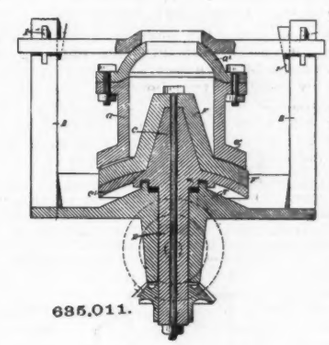
634,864 and 634,865. DREDGE. Lindon W. Bates, Chicago, Ill. The combination of a suction-pipe; a cutter carried by said pipe; and a buoyant ladder for directly supporting and controlling the position of the suction-pipe.

634,874. DUMPING-CAR. Robert E. Broyles, Chattanooga, Tenn., assignor of one-half to William E. Rape, same place. A dumping-car provided with a hinged door, a sliding bolt carried by the door, a hand-lever pivoted to the car-body, and movable about a pivot parallel with the axis of the hinge of the door, and a link jointed to the bolt and jointed to the hand-lever between its pivot and its outer end.

634,894. STAMP-MILL. William H. Lloyd, Colorado Springs, Colo., assignor of one-fourth to O. C. Townsend and William P. Wight, same place. The combination with a vertically-reciprocating stamp-head of



634,894.



635,011.

means connected with the continuously-rotating driving-shaft for imparting to the stamp-head a lateral reciprocating movement between its successive blows, the greater part of said lateral reciprocating movement being made while the stamp-head is resting on the material in the mortar.

634,904. METHOD OF CASTING ALUMINUM ALLOYS. William A. McAdams, New York, N. Y. The method consists in rapidly removing the heat from the molten mass more rapidly than has heretofore been common, thereby preventing the segregation of the metals and the formation of large crystals.

634,907. REVERSING VALVE FOR REGENERATIVE FURNACES. Hugh T. Newell, Pittsburg, Pa. A gas-valve for regenerative furnaces provided with ports communicating with the gas-flues of the furnace, an intermediate port communicating with the stack-flue, a horizontal valve-chamber provided with valve-seats vertically arranged at each side of the gas-flue ports and provided with vertically-arranged annular faces against which the valves abut, a valve-rod provided with valves adapted to cover such valve-seats, a common gas-inlet passage opening into both ends of the horizontal chamber, and a gas-inlet-controlling valve opening into the gas-passage.

634,911. THERMOSTAT. George F. Richardson, Hartford, Conn. In combination, a bar adapted to expand and contract by heat and cold, a pivoted electrode adapted to be vibrated by the expansion and contraction of said bar, two electrodes adapted to respectively make contact with said pivoted electrode accordingly as it is vibrated one way or the other, a screw-threaded pivot-bar carrying said pivoted electrode, and an operating-nut carried on and adapted to move said pivot-bar.

634,916. DRYING-KILN. George W. Sharer, Philadelphia, Pa. A drying-chamber, a furnace and its smoke-flue adapted to heat said drying-chamber directly by radiation, a series of air-ducts located alongside the furnace and leading from the exterior of the kiln to the base of the drying-chamber at points more or less remote from the exit end thereof, and a secondary air-duct having both ends open to the external atmosphere.

634,938. MACHINE FOR DRESSING STONE. Thomas A. Currie, Detroit, Mich., assignor to George E. Currie, same place. An oscillatory lever, a cutter-hammer having a handle, the handle of said hammer hinged at its opposite end to said lever to move therewith, the free end of said lever having a movable engagement with said hammer.

634,984. MANUFACTURING DURABLE INCANDESCENT BODIES. Albert Koch, Bernau, Germany, assignor to Chemische Fabrik von Max Jasper, same place. The process consists in impregnating the incandescent bodies with alcoholic and etheric solutions of organic silicium compounds, and exposing said impregnated bodies to a glowing heat, setting free silicic acid, which combines therewith to form an elastic and resisting body.

635,005. MANUFACTURE OF ARTIFICIAL MARBLE. James E. Summers, Lynchburg, Va., assignor to the Summers Marble Company, same place. The method consists in mixing together lime-water and silicate of soda, adding a cement to said mixture until it is fully incorporated therewith and finally allowing the mass to harden on a highly-polished surface.

635,011 CRUSHING AND GRINDING MILL. James M. Dyer, San Francisco, Cal. Apparatus consisting of a vertically-journaled rotary cone, having a peripheral base-flange, a removable shoe fitting upon the

cone and having a projecting annular flange, a laterally adjustable cylinder having a central diameter greater than that of the base of the cone and an annular curved flange adapted to fit upon the flange of the cone-shoe, a globular head at the upper end of the cylinder, a plate having a central guide-opening within which the head fits and means for adjusting said plate whereby the axis of the cylinder is set out of line with that of the cone.

635,017. PROCESS OF MAKING BENZINE AND HOMOLOGUES. Charles B. Jacobs, East Orange, N. J., assignor to the Ampere Electro-Chemical Company, same place. The process consists in melting together molecular equivalent weights of finely-ground metallic carbide with a metallic hydrate, whereby hydrocarbons and metallic oxides are produced.

635,025. FURNACE FOR ANNEALING, BAKING, ETC. William E. Saunders, Cleveland, Ohio. A furnace having an annular heating chamber and a continuously-moving water-cooled hearth therein.

635,026. PRESS FOR FORMING ARTICLES FROM PLASTIC MATERIALS. William E. Saunders, Cleveland, Ohio. The combination of a cylinder having a die-seat at its forward end, a thrust-plate closing the front side of said die-seat, a die fitting in said seat, and wedges adapted to be driven between the die and thrust-plate for forcing the die into rigid engagement with the cylinder.

635,047 and 635,048. DERRICK AND EXCAVATOR. George W. King, Marion, Ohio. A machine comprising a car or body portion; a mast rigidly secured upon the body portion; a boom revolubly supported at the upper and lower ends of the said mast and having a sweep extending completely around the mast and provided with hoisting-tackle; the boom-swinging drums and the hoisting-drum supported from the body portion independently of the boom and operatively connected with the boom and the hoisting-tackle, respectively, and the drum-operating machinery.

635,053 and 635,054. METHOD OF CASTING ALUMINUM ALLOYS. William A. McAdams, New York, N. Y. The method of casting alloys containing aluminum and zinc (or aluminum and copper) in which the aluminum predominates, consisting in removing the heat from the molten mass more rapidly than has heretofore been common in the ordinary use of molds, thereby preventing the segregation of the metals and the formation of large crystals.

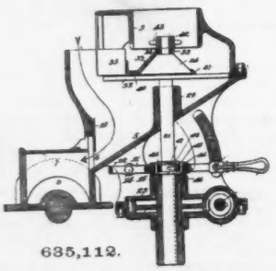
635,056. PROCESS OF TREATING ORE. Daniel O'Keefe, Boston, Mass., assignor to William Oliver Webber, same place. The process consists in roasting the ore while being agitated, subjecting the same to hydrogen gas under pressure, leaching the same with a liquid, and then evaporating any moisture or vapor present preliminarily to retreatment, substantially as described.

635,071. APPARATUS FOR BURNING HYDROCARBON OIL. John S. Hull, Baltimore, Md. The combination of a retort or burner tube, suitably-valved liquid and fluid conduits communicating separately with said tube, a heating-chamber surrounding the liquid-conduit, means for supplying air or steam to the heating-chamber.

635,093. PROCESS OF TREATING REFRACTORY SULPHIDE ORES. Francis Ellershausen, London, England. The process of treating refractory sulphide ores containing lead and zinc, which consists in smelting the raw ores, without previous treatment, and positively drawing off the fumes and gases by means of an exhaust sufficiently powerful to prevent the formation of zinc accretions.

635,112 and 635,113. FEEDING DEVICE FOR PULVERIZERS. William M. Wheildon, Boston, Mass., assignor to the Aero-Pulverizer Company, Jersey City, N. J. The combination of a feed-chamber, a flat stationary table therein, a channel eccentric with said table, but of increasing depth, and a shear rotable with respect to the table for removing material therefrom by a scraping action.

635,114. PULVERIZER. William M. Wheildon, Boston, Mass., assignor to the Aero-Pulverizer Company, Jersey City, N. J. The combination with a series of pulverizing-chambers and pulverizers therein, of



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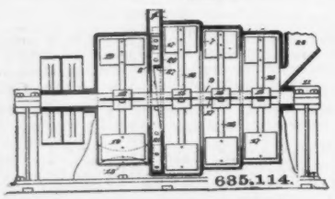

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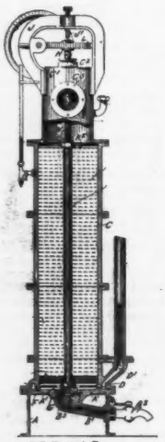


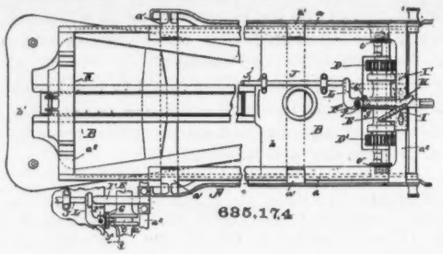
635,119.

means for introducing into the pulverizing-chambers material to be pulverized and a sufficient quantity of air as to result in perfect pulverization, means for introducing into the mixture of air and pulverized material an additional supply of air and a single fan for creating both air supplies.

635,119. APPARATUS FOR THE AMALGAMATION OF GOLD OR OTHER ORES. Anatole Bargigli, Paris, France. The combination with a vertical cylindrical casing containing mercury, passages to the interior of the base of the casing, and means for supplying the pulp to be treated to the passages at a greater pressure than that of the column of mercury, a cavity at the base of the casing to receive the amalgam, and an exit, above the level of the mercury, to take off the water and residue of the pulp; of a central vertically-arranged rotable shaft, a series of superposed circular plates fixed on the shaft, each plate having upper and lower concentrically-ribbed surfaces, the ribs on the lower surfaces being serrated, and a series of segmental perforations through each plate for the passage of the pulp and amalgam.

635,157. BLAST-FURNACE. Maximilian M. Suppes, Elyria, Ohio. The combination with the hearth-wall of a blast-furnace, of a metallic jacket surrounding the same, a plurality of open-end, independent vertical conduits or channels between the opposed surfaces of said wall and jacket and contacting with both wall and jacket, a water-supply receptacle with which the upper ends of said conduits or channels communicate, and means for carrying off the water discharged at their lower ends.

635,174. MINING-MACHINE. Edwin H. Mills, Columbus, Ohio, assignor to Joseph A. Jeffrey, same place. The combination with the bed-frame having a stop or abutment at the front end, a cam or abutment at the rear end, and feed-racks at the sides of the said bed, of the carriage having a transverse pinion-shaft with pinions engaging



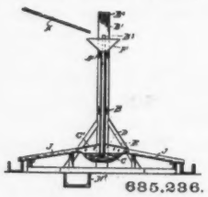
635,174.

with said racks, loose wheels, a transversely-sliding clutch for alternately engaging with said wheels, a sliding rack engaging with the clutch, a pinion engaging with the said sliding rack, a hand-lever rigidly connected with the said pinion, a supplemental lever connected with the pinion, and means traveling in the line of the front stop on the bed for moving the supplemental pinion-lever automatically, and means moving with the carriage and adapted to engage with the said cam or stop at the rear of the bed to move the clutch.

635,199. PROCESS OF TREATING GOLD OR SILVER ORES. Joseph Smith, Salt Lake City, Utah. The process consists in mixing the material to be treated, with caustic lime, saturating or covering the mixture entirely with water and keeping it thus until all the acid present has combined with the lime, drying the material, exposing it to the action of atmospheric air, and treating it with a cyanide.

635,221. CEMENT-CONCRETE PAVEMENT. Joseph H. Amies, Philadelphia, Pa. Assignor of one-third to Charles Fremont Taylor, same place. A pavement consisting of cement, gravel, sand, fibers and oil intimately mixed and laid in a continuous sheet on a bed or roadway.

635,236. AMALGAMATING APPARATUS. Henry S. Cope, Melbourne, Victoria, Australia. In combination with the frame, pipes arranged vertically in said frame, and having their lower ends flanged as described, guide-plates, and sliding plates having a limited vertical movement, a chute, and a hopper through which the upper ends



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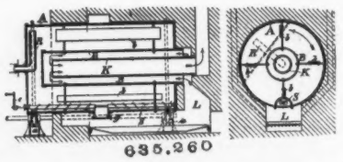


635,260

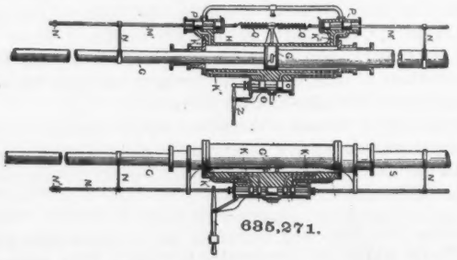
of the pipes pass and into which the pulverized auriferous material and water is fed from said chute, a mercury-containing receptacle pivotally arranged below said pipes, a screw-spindle for raising and lowering said pipes, riffle-tables located one at either side of said receptacle and a trough H to receive the amalgam.

635,238. DRYING-KILN. Franklin D. Cummer, Cleveland, Ohio, assignor to Eliza E. Cummer, same place. The combination with a source of heat, of a commingling hot and cold air chamber, and an intermediate hot and cold air supply stack, the drier provided with a long chamber in open relation at one end with the source of heat, and at its opposite end in open relation with the stack, said stack extending above the drier and commingling-chamber, and there provided with cold-air inlets, an inlet from the stack into the commingling-chamber, and controlling valves or dampers for said inlets.

635,260. APPARATUS FOR DRY DISTILLATION OF WOOD, COAL, ETC. Eduard Larsen, Copenhagen, Denmark. The combination with a cylindrical retort capable of rotation, of a central interior flue extending longitudinally and terminating at the outer end within the retort, flues communicating with the central flue, a furnace discharging its hot gases into the outer flues, and a chimney receiving said gases from the central flue, all the outer flues having communication with the central flue at their end farthest from said furnace.

635,270. DREDGING MACHINERY. Edward A. Rix and Peter B. Donahoe, San Francisco, Cal. In subaqueous dredging and exploring apparatus, a floating pontoon, a wellway therethrough and a pneumatic caisson suspended therein, means to raise and lower the caisson, screw or hydraulic apparatus to force the caisson downward, and springs interposed between the hydraulic or screw devices, to maintain an equal pressure around the pontoon.

635,271. APPARATUS FOR DRILLING ROCK. Robert M. Scott, Strathfield, and Alexander Goodsir, Balmain, New South Wales. The combination of a piston and its rod, a cylinder having a pair of ports at each end, one port of each pair for admitting and exhausting pres-



635,271.

sure and the other also for admitting pressure, valves controlling said ports with provisions for opening communication between the first-mentioned one of either pair of ports and the supply and exhaust alternately, and for trapping charges of pressure admitted through the other port of each pair, together with piston-actuated tappet mechanism for effecting such trapping action of the valve.

635,280. COMBINED PUMP AND MOTOR. Niels A. Christensen, Milwaukee, Wis. The combination of the frame having a chamber adapted to contain oil, a shaft provided with a crank or eccentric inclosed in said chamber, a cylinder formed with or attached to said frame and opening at one end into said chamber, a piston fitted to work in said cylinder and connected with said crank or eccentric, a motor-base attached to said frame and forming a cover for said oil-chamber, an armature supported upon said base and connected by gears with said crank-shaft.

PERSONAL.

Mr. Lew S. Aubury of Los Angeles, is examining mines in Mohave County, Ariz.

Mr. Francis Carter-Cotton, minister of finance in the provincial cabinet, has been taking a tour through Southern British Columbia.

Mr. H. E. Tiemann, Stevens '97, has been appointed an instructor in mechanical engineering at the University of Pennsylvania.

Mr. George W. Bright of Columbus, O., president of the Bonner Coal and Coke Company, visited the company's mine at Boomer, W. Va., on Oct. 25th.

Mr. W. B. Fisher, a California mining man, has been appointed general manager at Joplin, Mo., of the American Zinc, Lead and Smelting Company of Boston.

Mr. A. R. Whitney of New York, a partner of the Carnegie Steel Company, Limited, has gone to Colorado and California on a 3 months' trip for rest and recreation.

Mr. J. F. Callahan of Boston, who has been examining the Rhode Island, Eureka and Mississippi mines near Big Oak Flat, Cal., in which he is interested, has returned home.

Mr. Neil Cochrane, recently in charge of the Diamond Hill Mines at Hassel, Mont., has been appointed superintendent of the Oro Denoro Mine in Southern British Columbia.

Mr. Wm. L. McCague, who was formerly with the Victor Sampling Company, is now superintendent of the sampling works of the National Gold Extraction Company at Goldfield, Colo.

Mr. George H. Colket has been elected president of the Huntington & Broad Top Railroad to fill the vacancy caused by the death of Spencer M. Janney. He has been a director of the company since 1890.

Mr. W. B. Vanderlip, Jr., is now in San Francisco. For 3 years past he has been investigating placer deposits in Siberia for the Russian government, with headquarters at Vladivostok. He returns to Siberia in February.

Mr. Alonzo Chamberlain of Myersdale, Pa., for 25 years superintendent of the Cumberland & Elk Lick Coal Company, has tendered his resignation, to take effect November 1st. He will be succeeded by J. M. Hosack of Pittsburg.

Messrs. Ransom Turnbull and J. M. Wainwright of New York City, principal owners of the Mendota Copper property on Keweenaw Point, Mich., recently completed an examination of the property with a view of resuming work.

Mr. C. J. Norwood, who has been for some time past manager of the Singleton, Kentucky and Tahloneka mines, near Dahlonega, Ga., has returned to his home at Frankfort, Ky. Mr. J. F. Moore is now managing the mines as lessee.

Mr. L. Knight, well known in New York as being the former American representative of the English publishing house of Ward, Lock & Company, has been in New York for the last few days visiting old friends. He sailed for England on Wednesday.

Can any of our readers give us the present address of J. H. Smith, who, we believe, was also known under the name of George Ryall, of Kalispell, Mont.? Said Smith was in New York in March, 1899, and was heard from in Portland, Ore., in April.

Mr. F. A. Bates, who helped secure iron ore properties in Cuba, west of Santiago, for New York and Philadelphia men, is about to go to Cuba in the interest of the Cuban Steel Ore Company, that will develop the properties. The work of building a dock and railroad is under contract.

Mr. W. D. Crawford, who has been connected with the Schoenberger Steel Company for 18 years, is to be general manager of the Tidewater Steel Company that is now operating the Wellman plant at Chester, Pa. Mr. Crawford says that the company has arranged for a supply of ore from Nova Scotia and from Spain.

Mr. T. Katayama, architect-in-chief of the Imperial Household of Japan, has been in Tacoma, en route home. While in this country he let contracts for materials and equipment to be used in the erection of a grand palace for the Crown Prince of Japan. He says the materials alone for the palace will cost $500,000.

Mr. Isidor Davidov, mining engineer, formerly engaged in operating placers in the Lena District in Siberia, but more recently a resident of New York, has been appointed superintendent of the Santa Barbara Gold Placer Mines in the district of Zaragossa, department of Antioquia, in Colombia. He leaves New York November 4th to take charge.

Mr. A. W. Jenks, for several years superintendent of the Casapalca Mining and Smelting Company, Peru, and formerly connected with the Cerro de Pasco Mining Commission, is now associated with Olcott, Fearn & Peele, mining engineers, of New York, for whom he has done important work in Santiago and Santa Clara, Cuba, and in Mexico. He is now investigating large properties in Montana.

Mr. T. P. Shaughnessy, president of the Canadian Pacific Railway; H. S. Holt, P. A. Peterson, W. Whyte, L. A. Hamilton, J. McGrail, J. W. Troup, R. Marpole, Geo. McL. Brown, F. P. Guletins, W. H. Aldridge, of the Trail Smelter, and a number of other prominent men recently visited Rossland and other points in the Boundary country, looking into the situation there.

Mr. Henry J. Kimman, mechanical superintendent of the Standard Pneumatic Tool Company of Chicago is now in England, superintending the installation of machinery in the works of the International Pneumatic Tool Company, Chippenham, Wilts, Eng., which company recently purchased the right to manufacture and sell Little Giant pneumatic tools and appliances in the British Empire.

Mr. Joseph Sellwood of Duluth, Minn., one of the best known iron mining men in this country, has been appointed general superintendent of the American Mining Company, the Lake Superior mining branch of the American steel and Wire Company. The appointment became effective October 23d. Mr. Sellwood was formerly with the Minnesota Iron Company, but joined the American Steel and Wire Company last spring.

OBITUARY.

George Andrew, a member of the firm of Phalen & Andrew, owners of the New York Iron Works, died October 31st, at his home in New York City. He was born in Scotland and came to this country 45 years ago.

SOCIETIES AND TECHNICAL SCHOOLS.

Harvard University.—Several changes have occurred recently in the mining department. Mr. R. J. Forsythe has resigned as instructor in metallurgy, and his place has been taken by Mr. Albert Sauveur, a graduate of the Massachusetts Institute of Technology. Mr. C. H. White has been reappointed an assistant in mining. Mr. G. S. Rayner, '78, a graduate of the Columbia School of Mining, who has spent many years in Colorado, has charge of the mining laboratory.

Engineers' Club of Philadelphia.—At the meeting on October 21st there were 55 members and visitors present.

A topical discussion upon "Philadelphia—What are Its Needs?" was opened by Mr. H. V. B. Osbourn, who called attention to what he considered important improvements in water-supply, harbor, rapid transit, parks and streets, and public buildings. Mr. Harrison Souder followed with an exhibition of lantern views, illustrating improvements which have been made abroad at Paris and Berlin. Mr. L. Y. Schermerhorn described the improvements made during the past 10 years in the channel of the Delaware River and the wharves along its banks, and stated that the United States Government would probably continue the deepening so as to give a 30-ft. outlet to the sea. Mr. James Chrystie called attention to the necessity for the establishment of large ship-yards in connection with the proposed increase of commerce, and attributed the slowness in municipal improvements to a poor municipal system.

Other details of the city's municipal needs were discussed by Messrs. Francis Schumann, Wm. R. Webster, Edgar Marburg and J. C. Trautwine, Jr.

INDUSTRIAL NOTES

The Lane & Bodley Company of Cincinnati, O., will shortly ship 2 engines, valued at $15,000, to Shanghai, China.

The Cook Well Company of St. Louis, Mo., recently shipped a large well pumping outfit to Texas Hill, Arizona.

The E. P. Allis Company of Milwaukee, Wis., has a contract for several 2,000 H. P. engines for the electric railway service at Havana, Cuba.

its ore unloading facilities at Conneaut, O., by constructing another slip, which will make over 1,000 ft. of new dock frontage available in the spring.

The Pratt & Whitney Company of Hartford, Conn., has shipped $80,000 worth of machine tools to the Yorkshire County Cycle Company of Leeds, England.

The American Steel and Wire Company, it is stated, is to build one of the largest steel manufacturing plants in this country on Neville Island, near Pittsburg.

The Cahall Boiler Company of Pittsburg, Pa., is putting in a battery of 12 boilers, aggregating 4,000 H.P., at the Isabella Furnace of the American Steel-Hoop Company of Etna, Pa.

According to a Chicago dispatch on October 25th the South Chicago Mills of the Federal Steel Company produced 2,609 tons of steel rails in 24 hours, breaking their best previous record of 2,585 tons.

The Edgar Thomson Steel Works of the Carnegie Steel Company recently broke its best previous record by turning out 19,800 tons in a week, or an average per turn of 12 hours of 1,650 tons. On one day the day turn made 116 heats.

The Carnegie Steel Company of Pittsburg, Pa., has started its new 30-in. plate mill at the Homestead Steel Works, one of the 3 purchased last February from the Bethlehem Iron Company. The other two plate mills, the 42-in. and 112-in., will be in operation in about a month.

The Union Boiler Tube Cleaner Company, of Pittsburg, Pa., has completed a contract for cleaning 2 Haxelton or porcupine boilers having over 2,000 tubes with one end welded tight. These tubes were badly scaled and the closed end required a special tool of unique design.

The plants of the Ironton structural steel mill, the West Duluth car works and the West Superior steel mills at Duluth, Minn., and Superior, Wis., according to Duluth despatches, are now controlled by John E. Searles, of New York. The plants will manufacture structural steel and railway cars.

The entire plant of the Warren Machine Company, at Worcester, Mass., has, it is stated, been bought by Rudolph Kirschbaum of Berlin, who will move the plant to Germany. The works are to be largely increased. This will make the fourth American tool works to be started in Germany next year.

The Tramway Committee of the Corporation of Glasgow has awarded the Riter-Conley Manufacturing Company, of Pittsburg, Pa., the supply of all the steel work required for the new electric power station under construction at Port Dundas. The amount of the tender was £25,000. The other offers were from British firms, and their tenders were £32,484, £35,085 and £39,650.

The American Pulley Company of Philadelphia is to have made a very large hydraulic press for manufacturing all its wrought steel pulleys in larger sizes than have heretofore been made. The new machine will turn out pulleys up to 42 in. diameter by 18 in. face, and will handle solid steel from ¼ to ⅜ in. thick in the spider or arms.

The Philadelphia & Reading has ordered 1,000 King hopper coal cars, of 60,000 lbs. capacity, from the American Car and Foundry Company, to be built at the Detroit works, and 300 cars of the same class from the Middleton Car Works. These are in addition to the 1,000 cars from the American Car and Foundry Company and from the Lebanon Manufacturing Company, previously ordered.

The properties of the Commercial Guano Company at Savannah and Columbus, Ga., were purchased recently by the Virginia-Carolina Chemical Company of Richmond, Va. The plants at Savannah and Columbus were estimated to be worth $500,000, and the price paid is stated at or about that figure. It is also stated that the Virginia-Carolina Company is to acquire the plant of the Edisto Fertilizer Company of Charleston, S. C.

The William Cramp & Sons Ship and Engine Building Company, of Philadelphia, Pa., has placed an order for new buildings with the Berlin Iron Bridge Company, of East Berlin, Conn. The new machine shop will be 142 ft. wide and 350 ft. long; 3 stories high. All the floors, including the gallery floors, will be controlled by electric traveling cranes. The building will be of steel framework, the outside walls of brick, and it will be one of the largest and most complete machine shops in the world.

The Ironsides Company of Columbus, O., state that its business has doubled during the past year, and the completion of improvements and extensions to its works will permit a further doubling of its capacity. The company manufactures protective coatings and fillers for wire and fibre ropes, which guard against wear and exposure to water or acid; also lubricants for gearing and a metallic paint to resist acids and stand intense heat. The company has made a large shipment to the Hawaiian Islands.

A hydraulic cement plant to cost over $1,000,000 is projected in North St. Louis. A tract of 262 acres of land has been purchased on Prospect Hill, between the Mississippi River and the Burlington Railroad tracks. Eastern cement manufacturers and bankers are behind the movement. The company will incorporate under the laws of Missouri, with a capital of $1,500,000. The capacity of the plant will be 2,000 bbls. a day. Arrangements have been made

with the Burlington system for adequate trackage facilities.

TRADE CATALOGUES.

Geo. L. English & Company, mineralogists, of New York City, have issued a fall bulletin of 20 pages describing recent additions to the long list of minerals the company keeps on hand.

The Ludlow-Saylor Wire Company of St. Louis, Mo., manufacturers of wrought iron, wire and brass goods, including coal and ore screens, miners' and foundry riddles, coal screen webs, etc., has issued Catalogue 30, a 61-page pamphlet entitled "Bank Railings," showing a great variety of patterns of counter railings, partition screens, floor railings, wickets, extension gates, and window grills. Some of the patterns are plain, some highly ornamental.

The merits of "Economy Drilling Compound" are set forth in a 20-page pamphlet sent out by the White & Bagley Company of Worcester, Mass. The company states that this compound is a solidified oil which when reduced with water produces a cutting fluid superior to lard oil or other liubricants for threading, drilling, planing and turning all metals. Testimonials are given from many users, including such well known firms as the Pelton Water Wheel Company and the Berlin Iron Bridge Company.

All draughtsmen have heard of the drawing instruments manufactured by Theo. Altender & Sons of Philadelphia, Pa. Those wishing detailed information will find it in a 110-page catalogue published by the company. This catalogue tells how the Altender instruments have been brought to their perfection since the Altender joint for compasses was first patented in 1850, and by numerous cuts shows the various details of construction. There is also an illustrated price list of drawing instruments which are sold separately or in sets. Directions for the proper use of instruments are also given.

The Buffalo Forge Company of Buffalo, N. Y., has just issued a neat little folder showing recent designs of the company's engines. One cut shows a Buffalo Forge Company engine and General Electric Company generator, now running at the works of the Wagner Palace Car Company, Buffalo; a tandem compound center-crank engine, class A type, having new departures in design and construction, and a side crank engine for direct connection to a Westinghouse Generator, which is now in operation in Pittsburg. Among other cuts, one shows an entirely new type of Triumph Electric Company Generator, and the last shows a marine electric lighting engine, open frame type, some of which were recently purchased for the Portsmouth Navy Yard.

The Ironsides Company of Columbus, O., has published a number of little pamphlets describing the various lubricating compounds for gearing and for ropes that it manufactures. The "Ironsides" gear shield is stated to prevent metallic contact, diminish noise and retard wear. The "Ironsides" wire rope shield is said to prevent chafing of wires and to seal the exterior against corrosion from acid water. The wire rope filler is designed to protect the interior strands from corrosion and keep the rope flexible. Testimonials are given from some of the largest coal mining concerns in this country. The "Ironsides Boiler Scale Solvent," as its name indicates, is for boiler plants where the feed water is impregnated with acid, lime or earthy materials. A pamphlet gives many testimonials.

A 148-page catalogue, that contains some useful tables and a lot of information that will be found of interest by anyone who intends to develop a gold bearing placer is entitled "Hydraulic Mining Machinery," and is issued by the Joshua Hendy Machine Works of San Francisco, Cal. The catalogue treats of the construction of dams, flumes, ditches and pipe lines; the use of the hydraulic giant, and the merits of the double-jointed ball bearing giant; hydraulic elevators and water lifters and derricks; the proper use of sluices, riffles, etc., and gives directions for cleaning up and retorting the gold. Many statements are given of results attained in actual mining. The pamphlet contains a clearly written chapter on hydraulics with rules for estimating the flow of water and as a whole makes a handy reference book.

MACHINERY AND SUPPLIES WANTED.

If any one wanting machinery or supplies of any kind will notify the "Engineering and Mining Journal" what he needs he will be put in communication with the best manufacturers of the same.

We also offer our services to foreign correspondents who desire to purchase American goods, and shall be pleased to furnish them information concerning goods of any kind, and forward them catalogues and discounts of manufacturers in each line.

All these services are rendered gratuitously in the interest of our subscribers and advertisers; the proprietors of the "Engineering and Mining Journal" are not brokers or exporters, nor have they any pecuniary interest in buying and selling goods of any kind.

GENERAL MINING NEWS.

ALASKA.

Elias Rund, one of the civil engineers of the White Pass & Yukon road, has located a large ledge recently discovered on Taku arm of Tagish Lake. It is about 125 miles by rail and water from Skagway, and near the entrance to the Atlin country. A bar valued at $142 was milled from 4 tons of ore taken to Juneau, and the concentrates are said to run $87 per ton. The main ledge of the 14 claims located by Rund and associates is 8 ft. wide. Since its discovery over 300 quartz claims have been staked in the district. Mr. Rund is to erect a 10-stamp mill, operated by water power.

ARIZONA.

Yuma County.

King of Arizona.—This mine at Gila is working a ledge 12 to 30 ft. thick. The ore is principally porphyry, with quartz, calcite and barytes, and the gold is finely disseminated. Water is brought from 2 wells, 4 and 12 miles away, and has to be saved. Two 80-H.P. boilers and a 75-H.P. Corliss engine furnish power. The ore is crushed dry and treated by cyanide without amalgamation. The mill is said to make a very high extraction while using less than 35,000 gals. of water for 100 tons of ore per day. The ore goes to a Gates crusher, thence to revolving screen of ¼-in. mesh, then through a set of slow-speed Gates rolls. It is again screened and passes to 3 sets of Gates high-speed rolls and is crushed to 30 mesh. The pulp is dumped into 6 steel vats 6 by 50 ft. Cyaniding takes from 8 to 10 days. The vats are sluiced out and the water used over.

CALIFORNIA.

Amador County.

The Alameda County Miners' Association has elected the following officers for the ensuing year: President, Professor S. B. Christy; vice-president, Captain Thomas Mein; secretary, E. H. Benjamin; executive committee, Felix Chapellet, Mack Webber, W. R. Thomas and Dixon Brabin.

(From Our Special Correspondent.)

Lincoln.—At the 500 ft. level of this mine near Sutter Creek, good pay ore has been struck and the crosscut will be extended until the back slate footwall is reached. The shaft is down 1,190 ft. At the 1,200 ft. a station will be cut and drifts run.

Calaveras County.

(From Our Special Correspondent.)

Commodore Gold Mining Company.—This company has been incorporated with a capital stock of $100,000. The directors are W. H. Clary, Sr., E. W. S. Woods, W. H. Clary, Jr., S. N. Cross and J. M. Abeel. The company will work about 1½ miles from San Andreas.

Melones Consolidated.—It is reported that the rise of water in the Stanislaus River at Robinson's Ferry has made it necessary to break a wing dam to save the pumps and other machinery, and that work on the big dam will cease for the present. Fifty men have been laid off. Work on the tunnel and the 120-stamp mill will not stop.

Shirley Queen.—This gold property, 4½ miles from Copperopolis, is worked under bond by Eugene Germaine, C. A. Ducommun and W. H. Gifford of Los Angeles, who have erected a 5-stamp mill. The ledge is said to average 15 ft. wide. A shaft is down 40 ft. and drifts have been run. The bonders will probably close the purchase.

Union.—At this copper mine at Copperopolis the pumping plant is completed and unwatering the mine has begun. This will probably occupy several months as the copper which impregnates the water will be precipitated on scrap iron in the sluice boxes. The Ames estate of Boston controls this property.

Lassen County.

(From Our Special Correspondent.)

Golden Eagle.—The ore body in this mine on the east side of the town of Hayden Hill, from the 250 ft. level down to the 300 ft., is said to be over 25 ft. wide in places. The 400 ft. level is showing up better. It is rumored that the property will pass into the hands of New York parties who are now in San Francisco.

Hayden Hill Consolidated Tunnel Company.—At this mine the air shaft is down 30 ft. and connection will be made with the tunnel on the northwest slope of Hayden Hill, near the Susanville road.

Madera County.

(From Our Special Correspondent.)

Krohn Brothers.—The group of 13 gold claims at Course Gold, owned by this firm, has been bonded by J. E. Spencer for $55,000. A shaft is down 250 ft. showing an ore body from 3 to 10 ft. wide carrying free gold and sulphurets. There is a Bryan mill and concentrators on the property, which are to be remodeled. Two more shafts are to be sunk.

Nevada County.

Mayflower Gravel Mining Company.—At the annual meeting the following directors were elected: F. H. Green, A. C. Freese, J. H. Isham, J. C. Deering and F. Chappellet.

(From Our Special Correspondent.)

Champion.—The main shaft at this mine on Deer Creek, 1 mile west of Nevada City, is down 2,200 ft. and drifts have been run both ways in good ore. The company has just declared another dividend of 25c. per share.

Placer County.

(From Our Special Correspondent.)

Caledonia.—W. Stuart, owner of this mine, 3 miles below Michigan Bluffs, on the Middle Fork of the American River, has intersected the Caledonia vein, 225 ft. lower than the old workings. The ore is 4 ft. wide, carrying a streak assaying $194 per ton. Concentrates assay $1,018 per ton. The 10 stamps will soon be pounding again.

San Bernardino County.

(From Our Special Correspondent.)

Gold Mountain.—This group of gold claims, about 40 miles east of Victor and 5 miles northeast of Bear Valley, is being developed by Eastern men who own the adjoining claims. A large body of low grade cyaniding ore has been blocked out.

Shasta County.

(From Our Special Correspondent.)

Near Bully Hill a company composed of Michigan men is opening a copper property, showing a high percentage in copper. E. L. Blower is superintendent.

Arps.—At this group of copper mines in the 200 ft. tunnel a shaft has been sunk in high grade ore. About 130 ft. below the upper tunnel another is being run. William Arps is superintendent.

Conners.—This mine, near Redding, has resumed work on 6 claims. The mill will start next week.

Mable.—On this group at Muletown, Banter & Herzinger found a 3 ft. ore body that assays $12 a ton in gold.

Mountain Copper Company, Limited.—It is believed that the report of Dr. Henderson of the State Board of Health, in regard to the slag from the smelters polluting the Sacramento River through Spring Creek, will not sustain the charges, as the poisonous minerals are said to be taken out in roasting and smelting.

North Carolina Investment Company.—At this company's property near Stillwater, work progresses on the tunnel, which is to be 1¼ miles in length. Power drills are being placed. This company is composed of bankers of Cologne and Düsseldorf, Germany. They have acquired sevseral sections of land in the copper belt and employ 60 men.

Siskiyou County.

(From Our Special Correspondent.)

Greenhorn District.—The old Blue Gravel Mine is worked with a full force day and night. A new shaft is to be sunk.

At the Blue Gravel No. 2 on Nehrbass Ranch, the shaft is being sunk very slowly on account of a large flow of water. Good gravel is being hoisted. The bed rock has been reached at 141 ft., and sinking continued 8 ft. into bedrock. The gravel prospects very well. It lies between a cement rim or false bedrock and the permanent bedrock, which is quite soft.

Trinity County.

(From Our Special Correspondent.)

Local interest centers in a discovery made near Trinity Center of a 5-ft. ledge of hornblende granite carrying 4% copper and $7.50 gold per ton.

Globe.—This mine, 5 miles northwest of Dedrick, has been purchased by a French syndicate for $125,000. The property, consisting of 6 claims, is developed by about 1,000 ft. of tunnels. The ledge is 9 ft. wide, milling about $40 in gold per ton. There is a 5-stamp mill on the property. It was owned by R. Woodburn.

Tuolumne County.

(From Our Special Correspondent.)

Arbona.—The shaft at this mine at Tuttletown shows a 3 ft. ledge of good ore. About 600 tons of ore are on the dump. A 10-stamp mill is on the property.

Continental.—This mine at Columbia has been bonded to R. Stevenson of San Francisco and C. B. Taylor of Berkeley. A. S. Graham, the new superintendent, will begin development at once.

Dutch.—The shaft at this mine at Quartz Mountain, 1,200 ft. deep, has been pumped out and the 20-stamp mill has been started up by steam power. Repairing is under way.

COLORADO.

The Victor Fuel Company has been incorporated with a capital of $2,500,000. The company represents the consolidation of a number of smaller coal companies, and it is said proposes to compete with the Colorado Fuel and Iron Company.

Boulder County.

Hayden.—This mine, southeast of Eldora,

has been taken hold of by the Crescent Gold Mining Company and a plant of machinery ordered.

Virginia Mining Company.—This Eldora company has signed the contract with the Mogul Tunnel Company and the west branch of the tunnel is now being driven toward the Virginia, about 275 ft. distant, which will be cut 800 ft. below surface.

Chaffee County.

Fairplay.—This mine, at Monarch, is making regular shipments of 100 tons per month of a good grade of lead and zinc ore.

Anaconda.—The machinery for this mine, at Turret, owned by Dr. Bancroft of Denver, has arrived and is being installed. As soon as the water is taken out sinking will be resumed.

Clear Creek County.

(From Our Special Correspondent.)

Alpha Mining Company.—This company has been organized to acquire the Falu Mine at Freeland Camp. The water was recently pumped out and sinking and drifting on a wide vein of milling ore is under way.

Big Chief Mining Company.—This company, which is backed by Milwaukee capital, has just purchased an 80-H.P. plant of hoisting machinery, including boiler, and will put it at the Big Chief shaft and sink to 600 ft. It is opening some new discoveries up Soda Creek, and may put in air compressors and sink with air drills.

Edgar Union Company.—Contracts have been let for driving 1,000 ft. of drills on lodes cut by the Wilcox Tunnel. Six drifts will be run, 2 on each vein. One lode shows lead ore 2 ft. wide.

Great Western Mining and Leasing Company.—J. R. Elgan has organized a company to work these properties at Freeland. A shaft house is up and a new hoisting plant is being installed. The shaft will be sunk at a junction of several lodes. Adits on the Great Western show 6 ft. of $10 ore.

Gilpin County.

(From Our Special Correspondent.)

Mining Deeds and Transfers.—H. Graufield of New York to Kingston Gold Mining and Milling Company, the Pure Gold and portion of Gibraltar lodes in Russell District; J. D. Smock to W. Gelder of Denver, the Great Producer lode in Russell District; G. E. and A. L. Collins to L. S. Newell, Jr., the Mountain City lode in Gregory District; J. W. Drips to Hugh Butler of Denver, the Congress and Toronto lodes in Enterprise District.

American Mining Company.—The property was sold at sheriff's sale on October 28th, under foreclosure of mortgage, and was bid in by C. S. Ripley as trustee for the bondholders in the sum of $43,000. The property consists of the Mascot and 7 other claims and appurtenances in Pull District. C. S. Ripley, Apex, Colo., is in charge.

California.—Fire on October 23d destroyed the entire shaft buildings and damaged the machinery. The fire started in the drying room. Nothing could be done to stop the blaze. The loss is estimated at $40,000, with insurance held at $10,000. The property belonged to the California Mining and Milling Company of London, Eng., and was worked by the Gold Consolidated Mines Company, which during the last 10 months unwatered the shaft below the 1,700 ft. level. This level is reported to show ore and indications are that work will resume on a big scale. A. L. Collins, Central City, is manager.

Great Mammoth.—A plant of machinery from the Wood Mine has been taken to this property and a new shaft house is to be built. J. J. Reilly, Central City, is in charge.

Reward.—Ex-Senator Warner Miller and H. P. Barbour of New York have found some mill native copper. As the property lies near the snowy range nothing can be done except development until spring. B. F. Pyle, Eldora, Colo., is manager.

Ross Gold Mining Company.—Pittsburg, Pa., parties, who are interested in this company, operating the Central City Mine, have changed the name to the Mines Mining and Milling Company, with C. W. Taylor, Central City, Colo., as manager. The present sinking of 100 ft. will make the shaft 650 ft. deep.

Saratoga.—A Webster heating system in the shaft and buildings is expected to reduce the cost of fuel. The company intends installing a new hoist and will sink the shaft, now 910 ft. deep, another 100 ft. The working force numbers 50 men. Ernest Le Neve Foster, Central City, is manager.

Hinsdale County.

Golden Fleece.—The new mill is completed.

Lake County—Leadville.

(From Our Special Correspondent.)

Leadville Output.—Conservative estimates place the present output at 2,400 to 2,500 tons of all classes of ore per day.

Chippewa.—The Esteys are to begin work on a third shaft 450 ft. west of No. 4 shaft on the Lady Jane. No. 3 shaft is now down 525 ft. and is passing through a good contact carrying silver and gold values.

Curran.—This new shaft, between the Ballard and Waldorf, both of which are in good ore, is now down 350 ft. and arrangements have been made to continue work all winter.

Fortuna.—The lessees are working through 2 tunnels and shipping a small quantity of ore. This claim was the first property in Iowa Gulch to produce gold.

Galesburg-American.—Lessee Thos. Gilroy has begun shipping. He is operating on both the Free American No. 2 and the Little Galesburg. His new 210 ft. shaft was put down on the latter property just below the Big Six.

Garbutt.—This property, southwest of the Ibex, idle for several years, is to be worked by lessees, Messrs. Wuensch and Thompson. They have taken out about $15,000 in ore in former operations. The ore appears to be in distinct veins and some of it is very rich.

Golden Lamp Group.—Mr. T. S. Wood and others are interested. The group consists of 150 acres southwest of the Ibex, and a tunnel is being driven to cut the general trend of the Ibex shoot. The diamond drill has shown below the tunnel a low grade sulphide ore body.

Home Mining Company.—Shipments continue about 225 tons per day from the Penrose, Bon Air and Starr shafts. The great ore body in the Penrose shows no signs of an ending. In the Starr a new drift from the 500 ft., a 3 ft. breast shows some ore studded with chlorides and average assays are 1,000 oz. silver and 40 to 50% lead. This is surrounded by iron ore running 50 to 200 oz. silver to the ton. The very rich ore is sacked.

Neusitz Placer.—Papers are being drawn for a long time lease on this ground west of the main street to Leadville, and where no work of importance has yet been done. New York men are at the head of the new company. It is understood that the company will begin work before January 1st and that 2 shafts will be sunk to the contact.

New Monarch Gold Mining Company.—In addition to steady shipments from the old Monarch, shipments are to begin from the sulphide body opened in the Winnie at 270 ft.

Penn Mining Company.—One hundred to 125 tons per day of gold ore running 3 to 5 oz. to the ton is being shipped from the large ore bodies opened up in Nos. 2 and 3 shafts. It is expected that in the near future the concentrating mill will again be started up on the lower grade bodies.

Rock Hill Company.—Manager Bulkley is pushing a drift on the Nil Desperandum through the lime to catch the ore body on its dip.

Shultz Placer.—This 25 acre tract, including the Shultz, Gaw and part of the St. Louis Smelting and Refining Company, has been leased to a local company in which J. W. Newell, Mr. Gaw and others are interested, and a new shaft is to be sunk in the near future. The property is located in the downtown section.

St. Louis Tunnel.—Work started November 1st at the 125 ft. level of the interior.

Mineral County.

Creede Ore Shipment.—The weekly shipments are about 4,300 tons of all grades of ore.

Happy Thought.—This Creede mine is producing more ore and concentrates than at any time this year. The low grade ore is run through the mill and the more valuable shipped to the Philadelphia works at Pueblo. Most of the high grade ore comes from the No. 7 workings. The mill runs out large quantities of concentrates and the mine is easily the second largest producer in the camp, shipping 5 to 10 cars per day.

Last Chance.—An upraise is begun from the Nelson Tunnel to the Chance workings, at Creede, and when completed shipments from the Chance will be made through the tunnel.

Pitkin County.

Taylor Park Mining Company.—This company is putting in a $15,000 plant of machinery, consisting of three 3-in. air drills, compressor, hoist and boiler. An ore body 2½ ft. wide is reported in a winze from the upper level to the tunnel level, 325 ft. deep. The company is for the most part a Boston concern. H. A. Watson of Colorado Springs is general manager.

San Juan County.

Elmira Mining Company.—The Silver Ledge Mine will be worked with an increased force during the winter. The mill is running 12 hours per day and turning out 8 tons of concentrates.

Gold King Mining and Milling Company.—This company has let a contract for the extension of the American Tunnel on Bonita Mountain another 500 ft.

Occidental.—The lower tunnel is now 1,000 ft. Operations will be carried on all winter with a force of 10 men.

Superior.—A Cleveland, O. company is negotiating for the mine, in Eureka District. The ore is being sampled, and if the results are satisfactory the property will be opened in the spring.

Teller County—Cripple Creek.

(From Our Special Correspondent.)

Acacia Gold Mining Company.—Stoping has begun on the 550 ft. of the McGill lease on the Burns claim. The ore will run well. This property has made a great record during the past 6 months. A good find is reported on the Morning Star claim.

Colorado City & Manitou Mining and Milling Company.—A strike is reported on the Iron King claim, which adjoins the Hoosier on what is thought to be a continuation of the Hoosier shoot. The property is worked under lease. A find is also reported on the Little Maggie claim on the north side of Grassy gulch, where a shaft house and machinery are being put up.

Doctor.—A big legal battle is on between this mine and the Jack Pot, over apex rights. Connections have been made between the two properties on the lower workings. The Jack Pot is worked under lease by parties from Creston, Ia., and has produced a large amount of ore in the last year. The Doctor is worked by Josiah Winchester and others, who but recently began work, the property having been idle for some time. This mine was at one time a large shipper and was supposed to have been worked out; but considerable good ore has been taken out recently.

Isabella Gold Mining Company.—Rumors are still floating around in regard to finding very rich ore on the 10th level, but nothing can be verified.

John A. Logan.—Sinking has stopped, the 1,200 point being reached. Drifting is now going on. So far no ore has been shipped. The property is on Bull Hill not far from the Union, and is owned by W. S. Stratton, of Independence fame.

Portland Gold Mining Company.—This company is undoubtedly making a good record. Shaft No. 2, 3 compartment, is down about 500 ft. and still sinking with air drills. The shaft is higher up the hill than the present working shaft and is near the old Anna Lee.

CONNECTICUT.

Granby Copper Company.—This company, mostly Hartford men, have taken hold of the copper mines near Granby which have been worked intermittently for nearly 200 years. The present working is near the old Higley Mine. A few cars of ore have been shipped.

GEORGIA.

Lumpkin County.

Dahlonega Consolidated Gold Mining Company.—This company is now erecting the machinery in its new stamp mill at the Hand Mine, near Dahlonega. The mill will have 120 stamps, 850 lbs. each, and 60 of these are already in place. The building is 293 by 100 ft., having a timber frame, with corrugated iron roof and sides. The foundation is now completed for the chlorination plant and building. The house will be 126 by 120 ft.

IDAHO.

Blaine County.

Minnie Moore.—This famous old mine near Hailey is to be reopened. It once gave employment to over 200 men and is said to have yielded over $5,000,000.

The operators will be Spokane and Montreal parties. A new hoisting plant has been ordered. The Queen of the Hills Mill will treat the ore.

Boise County.

Stanley Basin Dredge Company.—This company's dredge on Stanley Creek, which has been running about 1 month, is soon to stop work for the winter. The dredge has a capacity of 3,000 yds. a day and the results of the month's run are said to be satisfactory.

Idaho County.

Snow and rain storms in the mountains have stopped most out-door prospecting for this season.

Olympia.—Thomas Barry has started his 5-stamp mill on Summit flat near Idaho City. F. F. Church is manager.

Shoshone County.

Rioters on Trial.—Thirteen of the men who were arrested as participants in the riot of last April that culminated in blowing up the Bunker Hill & Sullivan Mill at Wardner, are on trial at Moscow. In this case the men are charged with obstructing the United States mails by seizing a train of the Northern Pacific road on April 29th, when they swarmed down on Wardner from Gem, Burke and Mullan.

Midnight.—Near Mullan, the Morning Mining Company, in its No. 5 tunnel through Midnight ground, cut a vein of galena 5 ft. thick carrying good values.

MICHIGAN.

Copper.

Copper Range Mining Company.—This company is preparing to do some work with the

diamond drill at its pit. The pit was down 40 ft. when a bad quicksand stopped sinking.

Flint Steel River Copper Company.—This company's property is now owned by Walter Ferguson, who bought it at receiver's sale for $22,000. The land comprises 1,600 acres. The company was incorporated in 1855 and work carried on for some years. The company stopped work in 1873.

Quincy Mining Company.—The new shaft known as No. 8, being sunk on the old Mesnard property, north of the Franklin Mine, is down about 200 ft. and is timbered nearly to the bottom. No drifts have been opened yet. The shaft is opened on the site of a 5 by 10 shaft sunk years ago by the old Mesnard Mining Company.

Iron—Marquette Range.

The Minnesota Iron Company has bonded iron lands adjoining the Barasa Mine at Negaunee.

Rolling Mill.—Joseph Sellwood, superintendent of the American Mining Company, has secured this low-grade mine near Negaunee, owned by Samuel Mitchell.

Gooderich.—This iron mine, 5 miles south of Ishpeming, has been sold to the Oliver Mining Company. The mine has been idle 20 years.

Hartford.—The Oliver Mining Company has been testing with a diamond drill this property, which belongs to Benjamin Neely of Negaunee.

Michigamme.—The Cleveland-Cliffs Company is unwatering this mine at Michigamme, which has been idle since 1892. The ore is magnetite and the mine is noted for having one of the few magnetic concentrating plants in the country.

Negaunee.—The shaft house of this mine at Negaunee burnt down last week, temporarily stopping mining.

Iron—Menominee Range.

Chicagoan Lake.—This property, 6 miles east of Iron River, on which some exploration work was done by Capt. Alexander Wood in 1888 and '89, is under option to the Oliver Mining Company.

Hilltop.—Capt. C. T. Roberts has sold this property near Crystal Falls to the American Steel and Wire Company for $25,000. Mr. Roberts acts as manager.

Voos Exploration.—This exploration is ¼ mile east of Hollister, at Crystal Falls. On the surface diorite and greenstone outcrops make prominent ridges. Between the ridges is swampy ground. Test pits show jasper and ore. One pit shows fine blue ore, rather an anomaly in the Crystal Falls District, that assays 66% iron and .03% phosphorus.

MINNESOTA.

(From Our Special Correspondent.)

There is no change in lake freights. Shippers are already figuring on how they can lengthen the season, which was last winter set to close December 1st by the insurance companies. Now there is every inducement to ship to the latest possible date, but there is no economy in shipping ore after it begins to freeze solidly in cars and docks. All contract tonnage expires November 1st.

Inquiry has begun for ores for next season, and considerable ore from one range is already sold.

The Duluth blast furnace of J. M. Thomas is running on a Bessemer specification and is using a large percentage of Mesabi ore from Mr. Thomas' mine, the Williams. The remainder of the mixture is a Vermilion hard, and a train load daily is coming over the Duluth & Iron Range road.

Mesabi Range.

(From Our Special Correspondent.)

Ætna Iron Company.—This deposit, part of the Mountain Iron body, belongs to the Lake Superior Consolidated Iron Mines, but is likely to be taken by the Oliver Company, which has Mountain Iron under lease, before long. Ætna has a stripped area of 500 by 100 ft., but little ore has ever been taken therefrom.

American Mining Company.—The company is pushing explorations in section 28, T. 58, R. 20 under option from the Clark Iron Company. A lease from the Clark Company to Roberts & Swift for this and other adjoining land has been filed, allowing the former to buy at $350,000 till next July or to lease at 25c. a ton till next January.

Diamond Iron Company.—This property, on the west end of the range, has been looked over by Price McKinney, of Corrigan, McKinney & Company, with a view to purchase.

Elba.—The mine has been seriously troubled all the year by water and its shipments have been small.

Fayal Iron Company.—It is apparent that total shipment this year will be over 1,000,000 tons, leading all Lake Superior mines, unless Norrie does better than it has ever done before.

Mahoning Ore and Steel Company.—This mine has closed for the season, with a record of 747,000 gross tons shipped, of which 482,000 were of its Bessemer "Mahoning" grade and 265,000 its non-Bessemer "Beaver" grade. The "Mahoning" runs about 63% iron and .050% phosphorus, the "Beaver" the same in iron and .070 to .080 phosphorus. The mine has stripped some 30 acres and is working 2 levels, each of 23 ft. The third level has not been attacked. Since opening in 1895 this mine has shipped 2,075,000 tons, almost entirely to its stockholders, who include the Cambria Steel Company, the Republic Iron and Steel Company and the American Steel Hoop Company, which has just secured a ¼ interest. The mine has an equipment of 3 65-ton steam shovels and 3 heavy locomotives. There is no water in its opening except a very small stream that runs in from the north and sinks into the ore, to be pumped up by Hull and Penobscot mines, the latter 1¼ miles away. About 1,000,000 cu. yds. of earth have been removed. Work began in 1893. W. C. Agnew, of Youngstown, O., has been its manager since the beginning. It is expected that Mahoning will ship nearly 1,000,000 tons next year.

Mountain Iron.—This mine will continue shipments till cold weather stops. It is beginning to be bothered by water in the third—the bottom—level and a pump shaft south of the ore will be sunk this winter. This mine has several times this year sent out 12,000 tons in a single day and one shovel has mined 9,000 tons in 20 hours—the best record ever made anywhere. The mine has 40 acres of ore uncovered and is still widening the stripped area, at present with two shovels. Test pits in the hill south and southeast of the stripping show quite an extensive untouched area.

Sparta Iron Company.—Exploration is under way near this mine by parties interested in it.

Stevens.—This property, in T. 59, R. 15, east of all the opened mines of the Mesabi, has been carefully prospected by the Oliver Company and will be opened for another year's mining. It is an immense ore body, with only from 10 to 25 ft. of overburden. It will probably prove one of the largest steam shovel mines of the range. There is a royalty of 15c. a ton and a minimum output of 100,000 tons a year, beginning in 1900. Physically the ore is excellent; chemically it is not as high as some.

Vermilion Range.

Explorations in T. 61, R. 15.—On the Murray exploration, section 11, Corrigan, McKinney & Company have stopped work until hoists and other machinery can be had. A shaft is down 80 ft. The lessees are much encouraged at the prospects. The Thomson exploration, closely adjoining, is also idle waiting for a diamond drill. Extensive explorations are to be made here, and the indications are said to be good. The Underwood exploration, on the same lease, is to resume at once.

Another property in section 15, T. 62, R. 14 has been optioned to the Mahoning Ore and Steel Company and drill work begins there as soon as machinery can be taken in. Traveling in the woods is difficult on account of the wet fall, and machinery of all kinds is hard to get, as are competent drill men and explorers.

MISSOURI.

Jasper County.

(From Our Special Correspondent.)

Mining Land Sales.—Jap. Vancil has sold his 40 acre farm 3 miles east of Joplin, on Turkey Creek, to Janett, Paschal & Company, of Des Moines, Ia., for $25,000. The North Star plant on the 11th Hour ground at Carterville has been sold to Salt Lake, Utah, parties for $2,700 and will be removed to another lease. The old "Blakey No. 2" on the Granby land west of Joplin has been sold to Carthage and eastern parties for $25,000. Col. H. H. Gregg has sold 759½ acres on the south side of Shoal Creek, 3 miles from Joplin, for $50 per acre and has refused an offer of $50,000 for his Aunt Patty lead property in Tanyard Hollow. The Atlas Mining Company, of which R. F. Glenn is the manager, has purchased the Robert McGehee property on the Get There lease at Carterville for $50,000. The property is one of the greatest producers on the ground. The Burlingame property of 6 acres in Leadville Hollow has been sold to the Hartford Zinc Company. Edwin M. Clarke of Chicago has purchased a 2/3 interest in the Indiana lease south of Belleville of Yeager & Company, for $4,000. Henry Bright and others have sold to Woodward, Flannigan & Company their interest in the Schley mine at Central City for $10,000.

Joplin Ore Market.—The best price paid for top grade zinc ore last week was $43 per ton, against $44 the week before, and only a small quantity sold at this figure, the ruling price being $42; lead sold until the middle of the week at $27 per 1,000 lbs., but dropped to $26.50 at the close. The sales were unexpectedly large and operations resume October 30th, with empty ore bins. Conditions are much more favorable than at this time last year, when top grade zinc ore sold at $34 per ton and lead brought only $21 per 1,000 lbs. The producers' association has not made a schedule with the smelting people which will be satisfactory to both sides, but there will be no change in the schedule price.

For the corresponding week of 1898, the sales were greater by 2,191,450 lbs. of zinc and 193,380 lbs. of lead, but the value was only $3,657 greater. For the corresponding 43 weeks of last year the lead sales were greater by 5,397,072 lbs., but the zinc sales were less by 55,134,600 lbs. and the value was less by $3,742,035. As compared with the previous week, the zinc sales were less by 721,650 lbs., but the lead sales were greater by 44,850 lbs. and the value was greater by $4,160. Following is the turn-in by camps:

	zinc, lbs.	lead, lbs.	Value.
Joplin	1,058,800	231,850	$28,379
Carterville	1,332,120	93,420	30,451
Webb City	519,820	42,730	11,580
Belleville	140,330	2,750	3,593
Stotts City	319,620	33,390	7,228
Oronogo	1,156,860	.....	23,082
South Jackson	123,960	2,820	1,430
Duenweg	113,280	1,840	982
Cave Springs	95,570	.....	1,816
Lehigh	34,680	.....	708
Granby	364,000	84,000	7,050
Springfield	44,000	32,000	1,680
Hells Neck	.....	59,940	1,588
Galena-Empire	1,418,000	203,500	33,038
Dade County	84,340	.....	1,349
Barry County	42,150	.....	647
Carthage-Reeds	100,560	.....	855
Aurora	855,000	45,000	13,770
Total for week	7,813,590	783,240	$169,164
Total 43 weeks	423,029,550	39,296,728	$9,263,098

MONTANA.

Reports from prospectors and others who are coming from the gulches are to the effect that the past season has been very favorable for placer working.

Broadwater County.

(From Our Special Correspondent.)

East Pacific.—This Winston property, owned by R. A. Bell of Helena, has the No. 4 tunnel in close to 1,800 ft. The other workings on the property are worked by tributers.

Gold Dust.—This mine, 6 miles above Hassel, is owned by Connecticut parties. Sam T. Green is the manager and a large owner. He is now on the ground and will put the mine in operation.

Ohio.—This mine at Radersburg, owned by John Keating, is a regular shipper to the East Helena Smelter.

Granite County.

Montana Electric Power and Water Company.—About 40 men are at work preparing foundations for the power house to be erected on Flint Creek above Philipsburg. A route for the transmission line has been surveyed and the copper wire for it has arrived. It is reported that 1,500 H.P. will be developed and that the plant may be ready by February.

Jefferson County.

(From Our Special Correspondent.)

Bell.—This property, 6 miles from Alhambra at the head of Warm Springs Creek, owned by C. W. Flemming, is shipping 3 cars per week. Mr. Flemming is running a tunnel to tap the lode at depth of 250 ft. A second tunnel near the bottom of the hill will be driven this winter. Tunnel No. 1, now in 155 ft., passed through one shoot of 20 in. of shipping ore. A 50 ft. shaft on this property produced 23 cars of $50 ore.

Blue Bird.—This Wickes property is under lease to Jenkins & Company. D. T. Mathews, owner, recently refused an offer of $10,000 cash.

Bonanza Chief.—This property, 8 miles east of Helena, operated by G. T. Wickes of Helena, has its new shaft down to the 400 ft. level. The mine is very wet. A mill is to be erected soon, the management announces.

B. & G. Consolidated.—Experts from the East are making an examination of this Alhambra property with a view of taking over the control.

Elkhorn.—It is rumored that this property, owned by the New Elkhorn Mining Company of England, is to be closed.

Katie.—This property at Basin has its smelter and concentrator completed. Messrs. Glass Brothers, the managers, are now installing an electric plant to light the works and the town. The works were built under the supervision of C. M. Allen, and present many novel features.

King Solomon.—Latch Brothers and Geo. Redding have this mine under bond and lease from the Redding estate. It has produced some very high grade silver ore. It is situated 2½ miles from Clancy. A new strike is reported in the mine.

Pen Yan.—This mine joins to Blue Bird on the west and is under bond to A. K. Barbour of Helena, representing Eastern parties. The bond is for $50,000.

Rocky Bar.—Daley Brothers, who have had this Wickes mine under bond, have secured the deed and are making regular shipments of copper ore to Butte.

Owyhee County.

Trade Dollar Consolidated Mining Company.—Colonel James M. Guffey of Pittsburg, Pa., president of this company, has purchased all

the property of the Idaho and Pittsburg Mining and Milling Company, paying $50,000 cash for it. It adjoins the consolidated interests of the Trade Dollar Company, on Florida Mountain, near Silver City. The Trade Dollar Company owns 48 claims and 2 miles already. The new purchase includes 12 claims and 1 mill. The aggregate holdings now comprise 1,200 acres. The combined capital is $5,000,000. The property purchased was owned entirely by Pittsburg people, including James McKay, John Irwin, Jr., Frederick Irwin, Lloyd Little and others.

Park County.

Revenue Mining Company.—The company has completed its new stamp mill at Jardine. A bucket tram carries the ore to the mill from the mine. The old 20-stamp mill is running steadily on ore from the Keats and Sowash claims. It is equipped with Frue vanners and James tables. A large cyanide plant is being erected to treat the old tailings. Both the mill and the mines are to be lit by electricity. About 300 men in all are employed by this company and the Bear Gulch Mining Company. Harry Bush is president of both companies.

Silver Bow County.

Anaconda Mining Company.—This company has brought suit against F. Aug. Heinze, of the Montana Ore Purchasing Company, to recover a 7/12 interest in all the ores extracted from the Parnell lode claim and to compel the defendant to permit the company to enter into joint possession and occupancy of the claim.

NEW JERSEY.

Morris County.

North Jersey Iron Company.—The old Weldon iron mines near Lake Hopatcong, covering about 35 acres, are being worked by this company, which has acquired the lease. The Dodge iron mine, about 40 acres, formerly operated by the William E. Dodge estate, is also to be worked on royalty. On the Weldon the new shaft is down about 70 ft. and the old shaft, about 400 ft. deep, from which shipments were made 4 years ago, will be pumped out. Franklin Noble is general manager, and J. A. Thompson superintendent. The company is to be incorporated under New Jersey laws with a capital stock of $100,000, of $100 par value.

The Stanhope furnace, about 12 miles from Port Oram, has been acquired by New York parties and will be put in blast at once.

NEW MEXICO.

Bernalillo County.

Lone Star.—It is stated that O. P. Posey of Denver, Colo., has bought this group adjoining the Albemarle at Bland. A company named the Navaho Gold Mining Company has been capitalized for $2,000,000, divided into 200,000 shares, par $10. Joseph A. Coram is president and H. W. Wesson treasurer. Following are the directors: J. A. Coram, O. E. Weller, E. L. White and T. E. Hopkins. The general offices will be in Boston. The group consists of 6 claims, timber lands, mill sites, etc., making, it is said, 400 acres of mineral land. This property has been developed in a small way.

Grant County.

Hanover Copper Company.—This company has been incorporated under the laws of West Virginia. The incorporators are C. W. White, Citra, Fla.; Henry Cummins, New York; Charles G. Burke, Brooklyn; John Cummins, Roselle, N. J.; Felix Gottshalk, New York. The capital of the company is $1,000,000. A. H. Harllee of Silver City is resident agent. The company is working the Modoc group. In addition to the mines which the company is operating on its own account, A. W. Tennant, the general manager, has leased the Copper Pillar to George Gresge & Company; also the Granite and North Star. William Hahn is leasing the Engineer mine. Mr. Tennant has let a contract to sink a 2 compartment shaft upon the Alligator. Regular shipments of copper ore are made from the McCarthy, which is worked by the company.

NEW YORK.

Clinton County.

Chateaugay Railroad Company.—The company has decided to convert the old buildings of the Plattsburg Foundry Company, at Plattsburg, into a car factory. The works are now turning out charcoal cars. Next spring the company proposes to operate its mines at Lyon Mountain, Standish and other places at full capacity, raising 1,500 tons of iron ore daily.

NORTH CAROLINA.

Slate.

A company capitalized at $25,000 has been formed to purchase and develop a slate quarry at Ether. William Tallman of Greensboro, is interested.

Mitchell County.

Cranberry.—About 12 men are now at work at this magnetite mine. Shafts have been sunk in the great ore body to a depth of 190 ft.

Rowan County.

(From Our Special Correspondent.)

Dutch Creek.—These mines, 10 miles from Salisbury, are turning out some good copper ore. Sol Morgan Copper-Gold Mine.—This mine near Salisbury has shipped 2 car-loads of ore to the Nichols Chemical Company of New York. A. G. Cummings of Butte, Mont., is superintendent. Col. George Forbes of Boston is president of the company.

Union Gold and Copper Company.—The mines at Gold Hill are running day and night. Water jacket smelters have arrived and are to be erected at once. Dr. Ledoux of New York City reported on the mine in the week ending October 28th.

Swain County.

(From an Occasional Correspondent.)

Wesser Gold Mining Company.—This company, composed of Detroit, Mich., people is working a mine near Bryson City. The capital stock is $1,000,000.

OHIO.

Guernsey County.

Cambridge & Guernsey Consolidated Fuel Company.—Southard & Love of Toledo, representing the Cleveland Trust Company, have filed a $100,000 foreclosure suit in the United States courts against this company, the Cambridge Coal Company and the old National Bank of Cambridge, on the ground that the mortgageors have defaulted in interest. The property consists of 1,200 acres of coal lands in this county, and the complainants pray for a receiver to take charge of the property until the case is disposed of.

OREGON.

Douglas County.

(From Our Special Correspondent.)

Golden Slipper Mining and Milling Company.—This company has been incorporated with Dr. W. W. Oglesby, president; Fred. W. Hogg, vice-president; M. O. Warner, secretary and treasurer. Harvey Johnson is general manager. The capitalization is 200,000 shares, par value $1. The company owns 7 claims. Two additional leads have been discovered on the property within the last week. The mine is in Douglas County, but the principal place of business is Eugene, Lane County.

Lane County.

(From Our Special Correspondent.)

Harlow & Stocks.—This group of claims on Fairview Mountain were purchased on October 11th by Charles Harding Park, who recently bought the Vesuvius group adjoining the Harlow & Stocks. The price was $25,000. The property has 600 ft. of tunnel and a 5-stamp mill. The new owner will run a tunnel to tap the main vein 350 ft. deep, and will crosscut the 5 other veins on the property. These veins are from 2 to 12 ft. wide.

PENNSYLVANIA.

Anthracite Coal.

Lehigh Valley Coal Company.—William Connell, president of the Connell Coal Company of Scranton, has brought suit against the Lehigh Valley Company to restrain it from laying its tracks through the breaker properties of the William A. and Lawrence Collieries. Some of the coal coming from these collieries is leased from the Lehigh Valley Company, but the bulk of it is leased from Mr. Connell, and is not under contract to ship by any company. Mr. Connell alleges that building the tracks would compel him to ship by the Lehigh Valley alone.

Mt. Lookout.—This breaker at Wyoming, belonging to Scranton parties, which was burned down on August 21st, is being rebuilt. The new structure will cost $100,000, and will be 90 ft. wide, 85 ft. deep and 160 ft. high. About 700,000 ft. of lumber will be used in the construction.

Susquehanna Coal Company.—The report that this company had resumed work at its No. 6 Colliery at Glen Lynn proved premature. But a few men showed up and the company has announced that unless the strikers yield the mine will remain closed indefinitely.

SOUTH DAKOTA.

Custer County.

(From Our Special Correspondent.)

Black Hills Water and Mining Company.—This company owns valuable rights on Pleasant Valley Creek. The company also owns some placer workings.

North Star.—This company has cut a vein of ore in the north drift. The drift is 160 ft. below surface. Chas. Bostrom, of Custer, is foreman.

Lawrence County.

(From Our Special Correspondent.)

Buxton-Golden Reward Mining Suit.—The Court of Appeals has rendered a decision in favor of the plaintiff. Suit was brought by the Buxton Company against the Golden Reward for taking ore across a division line. The suit was first started for $200,000 and the United States Court in Deadwood gave damages to the amount of $62,961.

Grantz Strike.—Otto Grantz, owner of the Hidden Fortune claim, in the North Lead District, has taken out 2 more cars of ore from the rich shoot. Mr. Grantz estimates that each car will give high returns when treated. The specimen rock is reserved. He expects to treat it in the laboratory. There are perhaps a dozen sacks of ore which will run very high. The shoot is being stripped at each end. Mr. Grantz will develop his 4 claims this winter and will erect a mill next spring. The rich shoot contains a variety of ore; black sulphides, horn silver, native silver, sylvanite and gold. The silver predominates about 2½ oz. to 1 oz. of gold.

Hawkeye.—A number of the directors and stockholders of this company, which owns mining ground between Pluma and Lead, have been in Lead and Deadwood for several days. Matters are being arranged, it is stated, so that the mine and mill can start again.

Horseshoe Mining Company.—Several of the directors have been in Deadwood and Lead from Canada, looking over the mines and chlorination works. The company, it is stated, is becoming interested in the project of the American Mining Company, which is starting a town in Spearfish Canyon near the mining ground owned by the Horseshoe Company.

Northwestern Gold and Silver Extraction Company.—This company has bought the boiler at the Highland Chief stamp mill, in Spruce Gulch, and installed it at the Kicking Horse Mine at the head of Blacktail Gulch. The cyanide plant in Deadwood will be ready in a month.

Pennington County.

(From Our Special Correspondent.)

Highland Mining Company.—This company has leased the mine and mill near Mystic to Judge John Burns, of Deadwood, and William Hall, of Colorado Springs, Colo. There are 5 claims in the group. A shaft is to be sunk by the lessees. Assays made on the ore show free milling and concentrating ore. There is a 10-stamp mill.

Lena.—The first ore shipped from this mine was taken to the J. R. stamp mill, east of Hill City, this week. A test run on 100 tons from the 60 ft. level will be made.

New Cyanide Plant.—Foundations for the electro-cyanide plant which Prof. F. M. Long of Chicago is erecting at Mystic, are laid. The plant is to be completed in 60 days.

Rapid Creek Placer.—J. C. Sherman, of Pactola, has the machinery on the ground for his placer outfit, consisting of a 50-H.P. boiler and engine, steam pump and Link Belt conveyor. It is 30 ft. to bedrock. A pit will be excavated to bedrock with scrapers and the gravel will be got out by the conveyors. The water will be pumped into sluice boxes. Mr. Sherman has over 6,000 ft. of placer ground along the old creek-bed.

TENNESSEE.

Cumberland Coal and Coke Company.—This company recently organized under the laws of New Jersey, with an authorized capitalization of $30,000,000, has placed a mortgage on 350,000 acres of land lying in Cumberland, Fentress and Bledsoe counties, to the Mississippi Valley Trust Company of St. Louis for $1,000,000. The company is composed of St. Louis men, among whom are the Neidrighnaus Brothers. The lands formerly belonged to W. L. Breyfogle of Louisville.

UTAH.

Juab County.

(From Our Special Correspondent.)

Tintic Shipments.—For the week of October 28th there were sent forward from the 3 rail points of the district 103 cars of ore and 4 cars of concentrates. The ore shipments were: Bullion-Beck, 20 cars; Mammoth, 17 cars; Swansea, 12 cars; Uncle Sam-Humbug, 10 cars; Gemini, 7 cars; Grand Central, 4 cars; Ajax, 3 cars; Godiva, 2 cars; May Day, 2 cars; Eagle-Blue Bell, 1 car; South Swansea, 1 car, and Tintic Iron, 24 cars hematite for flux. Mammoth shipped 2 cars concentrates and Sioux Mill 2 cars.

Ajax.—Development is to be pushed below 700 level. The last ore shipments showed better copper values than common.

Cleopatra.—C. E. Allen inspected the latest development this week. Shaft is down 360 ft., the bottom in a vein with bunches of good ore, probably the extension of the Swansea.

Eagle-Blue Bell.—Main shaft is to be put down by air drills beginning next week. Present depth of shaft, 125 ft. A shaft house and ore bins are being built.

Yankee Consolidated.—In the tunnel is an iron-stained seam of lime and quartz which carries 5 to 10 oz. silver and $2 gold—possibly a feeder. This Godiva hill section is attracting much attention at present.

Summit County.

(From Our Special Correspondent.)

Alliance.—At a special shareholders' meeting on November 24th, the following directors were elected: Messrs. Thomas Kearns, E. A. Wall, W. G. Lamb, A. C. Ellis, Jr., M. J. Daly, Henry Welch and Josiah Barnett. This is practically a part of the Silver King holdings and the worth of the ground is to be thoroughly tested.

Daly-West.—It is stated authoritatively that

J. E. Bamberger has an option on 50,000 shares —the remainder of the Haggin-Hearst-Chambers holdings—at $1.33 1/3 per share, on which the first payment is made and the balance is due November 20th. Mr. Bamberger is the agent of the Guggenheims, who already hold some 28,000 shares.

Ontario.—Machine men working in wet ground are to receive $3.50 per shift. Ontario miners are paid $2.75, $3 and $3.50. The saving in Marsac Mill on old Ontario mill tailings is no better than last year, but a larger tonnage is put through—100 tons per diem, running about 11 oz. silver.

Park City Shipments.—In the week ending October 28th the total smelter products sent forward through the Mackintosh sampler was 3,014,130 lbs., contributed as follows: Silver King, crude, 715,370 lbs.; concentrates, 275,940 lbs.; Ontario, crude, 1,068,430 lbs.; Daly-West, 728,120 lbs.; Apex, concentrates, 190,280 lbs.; Wright, concentrates, 35,990 lbs.

WASHINGTON.

Okanogan County.

(From Our Special Correspondent.)

Okanogan Free Gold Mines.—According to Alfred S. Edgecombe, who is in charge of the mill, the new tunnel is in 64 ft. The ledge is 10 ft. wide, and recent assays show $53 to the ton. The mill is running night and day. The next clean-up will be made early in November. The property is 16 miles north of Loomis.

Snohomish County.

Bonanza Queen.—Metcalfe, Gallagher & Swett, mining men of Butte, have bonded this group of copper claims, in Silverton camp, east of Everett. The work now done consists of 2 tunnels aggregating 300 ft. The property is on the line of the Everett & Monte Cristo Railroad.

WEST VIRGINIA.

Century Coal Company.—This company has taken out a charter in this State under which it is authorized to own, lease and operate coal properties and build and operate such tramways, roads, ocean tugs and barges as are necessary to carry on its business. The capital stock is $1,000,000, and the incorporators are: Messrs. Alexander Shaw, Michael Jenkins, Gen. John Gill, Nelson Perin and Simon Rosenburg. The company has purchased 12,000 acres of coal lands in Barber and Upshur counties. Baltimore, Pittsburg and Boston men are interested.

Fayette County.

(From Our Special Correspondent.)

Carl Scholz and James B. Thomas, of the Riverside Coal Company, and the Superior Coal and Lumber Company, have started to open a mine on one of Capt. W. R. Johnson's 1,000 acre leases on Blake's Branch of Smither's Creek. This lease adjoins the one being opened by the Raven Coal and Coke Company.

WYOMING.

Carbon County.

Hay Creek Coal Mines.—The new mines at Hay Creek, across the Black Hills line, are running to their full capacity. A train-load is shipped daily. A 6 ft. seam has been struck in a new place. A number of diamond holes have been put down. The coal is of good quality and is used by the Northwestern Railway Company and most of the ore treating plants in the Northern Hills.

FOREIGN MINING NEWS.

ASIA.

India—Hyderabad.

"Indian Engineering" reports that the Hyderabad Government has granted a temporary mining lease to Mr. M. Billa, a mining expert, to prospect, develop and acquire copper, silver and gold within an area of 30 miles in the Nalgunda District. Some valuable veins have been already struck in this place and samples of gold and mica brought in. A company to work the mines is in process of formation. Such a lease, it is believed, would be an infringement on the rights of the Hyderabad-Deccan Company.

AUSTRALASIA.

New Zealand.

(From Our Special Correspondent.)

In Otago the dredges continue to give satisfactory returns. The Hartley & Riley dredge continues to top the list. The return for the week ending August 18th was 786½ oz, and September 22d, 689½ oz. The total for the past 12 weeks is 6,250½ oz., valued at about £3 17s. ($19) per oz. Other dredges are doing well; 25 dredges in 37 weeks recovered 30,178 oz. of gold, valued at £116,185 ($580,925), an average per week per dredge of 32½ oz., value £125 ($625). The working expenses being about £40 ($200) to $50 ($250) per week, this leaves an average profit of £80 ($400) per week. As evidence of the interest in dredging, it may be mentioned that a book on dredging published by the Otago "Daily Times" was practically sold out the day of issue.

The returns from Auckland gold mines since the last mail total £54,701 ($273,505), of which £42,937 ($214,685) comes from the Ohinemuri district, £6,768 ($33,840) from Coromandel, and £4,996 ($24,980) from Thames. The leading producers were: In Ohinemuri-Wahi, with £24,165 ($120,825) from 8,541 tons; New Zealand Crown, with £6,138 ($30,690) from 3,053 tons; New Zealand and Talisman, with £2,676 ($13,380) from 843 tons; Waihi-Silverton, with £1,722 ($8,610) from 1,075 tons; Woodstock, with £1,602 ($8,010) from 1,390 tons. In Coromandel district: Kauri Freehold, with £4,025 ($20,125) from 3,349 tons; Hauraki, with £793 ($3,965) from 140 tons of ore and 164 lbs. of picked stone; Royal Oak, with £747 ($3,735) from 140 tons of ore and 400 lbs. of picked stone. In Thames District: Tararu Creek, with £1,375 ($6,875) from 1,323 tons; Whangamata Corporation, with £1,125 ($5,625) from 570 tons; Moanataiori tributers, with £869 ($4,345) from 227½ tons.

The chief events this month are the initial return of the Kauri Freehold Company and the striking of a high pay reef by the Waihi Company. The reef is 25 ft. thick where cut, averages £5 4s. 3d. ($26) per ton, and is free milling. The reef was cut at 575 ft. in a crosscut driven from the No. 4 level. The crosscut had passed through 2 other reefs, one of which was 8½ ft. thick, and assayed £1 3s. ($4.65) per ton.

The Mines Department reports the total gold and silver exported for August and the 8 months ending August 31st as follows, in ounces:

	Gold.		Silver.	
	1898.	1899.	1898.	1899.
August	34,446	$8,531	30,516	25,229
Eight months	188,368	257,500	157,077	226,209

Silver showed a decrease in August for the first time this year. For the 8 months there was an increase of 69,132 oz., or 44%. The increase in gold was 4,085 oz., or 11.9%, in August; and 69,132 oz., or 36.7%, for the 8 months.

CANADA.

British Columbia—East Kootenay District.

(From Our Special Correspondent.)

The Swansea, Silver Thread, Sitting Bull, Red Line, White Elephant, White Cat and Pretty Girl are all working.

North Star.—This company is working with a diamond drill. The Kimberly Consolidated, an adjoining property, has several men employed. The shaft is down 75 ft.

British Columbia—West Kootenay District.

Cariboo Consolidated Gold Mining and Milling Company.—The Cariboo mine is at Camp McKinney, near the international boundary midway between Greenwood and Pendicton. The company's holdings comprise 7 claims. The main ledge varies from a few inches to 8 ft. wide, the average being 3½ ft. to 4 ft. The country rock is diabase. The vein carries galena, blende, iron pyrites and sylvanite, with occasionally free gold. On the Cariboo and Amelia claims 4 shafts are sunk. The main working shaft is down 360 ft. and the 4th level is being opened at this depth. The mine is equipped with a 10-drill air compressor, a hoist, and 2 60-H.P. boilers. The milling plant consists of a Blake crusher, a Gates crusher, a 20-stamp mill, 2 Johnston concentrators and 1 Wilfley table. The mill is operated by a 60-H.P. Corliss engine and a 60-H.P. boiler and handles about 50 tons of ore every 24 hours.

The ore is partly free milling, with about 4% concentrates worth about $60 per ton. The property is said to yield about $20,000 per month. About 60 men are employed under George McAulay, resident manager.

Majestic Gold Mining Company.—This company, with $1,500,000 capital stock in $1 shares, proposes to develop 4 claims at White's Camp, 10 miles from Grand Forks. A tunnel has been driven over 300 ft. on the Lexington claim. The ore is copper-gold. It is proposed to treat the ore mined at the works of the Granby Consolidated Mining and Smelting Company, at Grand Forks. The directors of the company are S. H. C. Miner, Granby, P. Q., president; C. F. Smith, Montreal; Jay P. Graves, Spokane, Wash., vice-president; A. L. White, Montreal, secretary; Leslie Gault, Montreal; W. Y. Williams, Phoenix, B. C.; J. F. Hemenway, Phoenix, B. C.

(From Our Special Correspondent.)

British Lion Gold Mining and Development Company, Limited.—This company is organized under Ontario laws and owns a group of 6 claims between Ymir and Saluro in Nelson Division. According to A. A. Vernon, secretary of the company, who selected the properties, several strong ledges outcrop assaying fair values, the ores being argentiferous lead and gold and copper. Nothing but preliminary prospecting has been done. The capital stock of the company is $80,000, divided into $20 shares. The officers of the company are Judge Creaser, president; Alexander Green, vice-president; Dr. Earley, treasurer; A. B. Hay, George McQuay, Francis Quarce, A. A. Vernon, secretary; R. W. Evans, all of Owen Sound, Ont., where the head office is.

Le Roi.—This company announces a dividend payable November 7th, of $250,000. It is stated on good authority that the dividend is largely from ore turned over at the Northport Smelter at the time of the final settlement with the Turner interest, and the advance on the par value of the shares. The new management has started a system of rigid economy. The best of the ore on the old dump is to be shipped. It will amount to perhaps 75,000 tons, averaging about $10 per ton. Up to October 23d the mine has shipped this year about 72,000 tons of ore valued at about $1,000,000 gross. The total dividends amount to $1,075,000. This, with $440,250, paid by the War Eagle, $1,515,250, in all, represents the total dividend account for Rossland mines to date.

Nelson Dividend Payers.—It is reported that the Athabasca is paying about $10,000 per month, the Exchequer $5,000, and the Dundee from $7,500 to $12,000. The Fern has paid no dividends since it paid $10,000 some months ago, the Porto Rico is suffering from lack of water, and too much snow in midwinter, the Tamarac is reported all right, the Venus is about to erect a 10-stamp mill, and recently the Juno was bonded for $50,000 to a Toronto syndicate.

Rossland Ore Shipments.—The output of ore from Rossland mines for 9 months and 26 days of the present year amount to about 137,000 tons. The shipments for the month ending October 31st will be close to 14,000 tons.

Brandon & Golden Crown.—The management of this mine near Greenwood is developing the 150 and 300 ft. levels. A small quantity of ore is ready for shipment.

British America Corporation.—On the Great Western the shaft is nearing the 400-ft. level. At the No. 1 drifting continues to the 400-ft. level. On the Josie the workings are being connected with the Poorman.

California.—Superintendent Williams of the Rossland Claim has 10 men at work. The management is building a 100 by 40-ft. compressor house.

Dundee.—A meeting of this Ymir company is announced for November 19th. It is reported that an English company has made an offer to take the property, issuing stock in payment and putting $200,000 in the treasury for development.

Iron Mask.—The management is sinking to the 400 ft. level.

Tamarac.—The management of this Ymir mine is about to erect a stamp mill.

Mascot.—No new developments are reported from this Rossland claim. About 24 men are at work.

New St. Elmo.—The new compressor has been installed at this Rossland claim.

O. K.—This Rossland property has been in the hands of the official liquidator for 2 years. According to Samuel E. Rigg, one of the directors of the National Bank of Spokane, the principal creditor, the Supreme Court of British Columbia has directed the liquidator to turn the assets over to the bank and the transfer will be made as soon as sufficient money is placed in the Bank of Montreal to meet the claims of the other creditors. The amount of the National Bank's claim is upward of $42,000. The shareholders will get nothing.

Rathmullen.—This group comprises 14 claims in Summit Camp, about 7 miles northwest of Grand Forks, in Boundary District, and includes a number of parallel gold and copper-bearing lodes, exposed on both sides of Ione Creek, in all an area of 640 acres. The formations consist of limestone, deabasie and dykes of altered deonite. The mineral deposits lie in the altered emptrories. The elevation is about 3,700 ft.

The Maple Leaf claim has 2 shafts, about 100 ft. apart, and down about 150 ft. respectively. Assays are reported as high as 4.407 copper, and $16 in gold. According to W. H. Jeffery, of Rossland, the ores are pyrrhotite and chalcopyrite.

Virginia.—The new ledge is being opened at 2 points, about 400 ft. apart. Four carloads of ore have been shipped to the Trail Smelter from the ledge and another is to be shipped immediately.

War Eagle.—The new manager, Mr. Kerby, it is said, is making several changes in the working staff.

White Bear.—John Y. Cole, manager of this Rossland Mine, reports an 18-ft. sump is completed. The shaft is down 350 ft. A drift to the east is in 15 ft.

Ymir.—The value of the output of this Ymir mine to October 25th is estimated at $95,000.

Ontario—Clarendon County.

Belmont.—A stamp mill is working satisfactorily at this property, where several years ago a Crawford amalgamation mill was tried with no success.

Boerth.—At this gold mine in Frontenac is running a 10-stamp mill with amalgamation plates and a Wilfley concentrator. The assayer, C. W. Dickinson, reports that 175 tons of quarts gave 250 oz. amalgam, yielding 85 oz. gold worth $1,700. A roasting and amalgamating process—the Eames—previously used, gave unsatisfactory results.

Ontario—Sudbury District.

(From Our Special Correspondent.)

The Dominion Mineral Company, whose mines

and smelting plant have been idle 3 years, is to be reorganized. It is expected that work will be resumed next spring on an extensive scale. The new management will likely be under the control of more experienced men.

Mitchener & Howland won their suit to compel the owner of a minority interest to sell out to them or to join them in working a property they bonded near Worthington station.

North Star.—Some preliminary development has been done on this property in Snider Township. The natural outcrop of mineral is one of the finest in the whole district, and the ore is high grade.

SOUTH AMERICA.

British Guiana.

The gold mined and reported at the Department of Mines in September, on which royalty was paid, reached a total of 10,136 oz. This is an increase of 778 oz., or 8.2%, over September of last year.

COAL TRADE REVIEW.

New York. Nov. 3.

Anthracite.

Those anthracite dealers who have been the first to shout "wolf" and who carried on a guerrilla warfare last year with much success, find the situation to-day an unaccustomed one. The trade is in better shape than in 20 years. The public wants coal and doesn't hesitate to pay the price. Many dealers are already speaking confidently of next year.

Buying at Chicago and upper lake ports felt the warm weather last week, but is now as active as could be wished. Stocks on docks, in spite of the movement up the lakes, do not accumulate very fast. At the lower lake ports business is excellent and the activity at Philaphia, Boston and New York exceeds the fondest dream of the most optimistic sales agent. However, it is not apparent that the 25c. advance is generally secured at New York, though such an advance holds in the west. Some sales agents ask $4.25 for stove and chestnut, yet probably both those sizes in most cases change hands at prices nearer $4. It is already clear that chestnut coal is going to be very scarce this winter. It has been in short supply west and now eastern dealers are finding difficulty in supplying orders. As the collieries cannot increase their output of any size without a general changing of their screens, the scarcity of chestnut may be so marked before long as to justify producers in asking a 25c. advance on this size over stove. Recent rains will help those collieries that have been complaining of a short water supply and the miners are likely to get steady work until Christmas anyway. Sporadic labor troubles continue. The Susquehanna Coal Company's collieries at Glen Lyon and Nanticoke may lie idle all winter, but in general the outlook is against any serious interruption of activity.

We quote free burning white ash f. o. b. New York: Stove, $4@$4.25; nut, $4@$4.25; egg, $3.75@$3.85; broken, $3.40@$3.50. The steam sizes are in better demand, and are in good supply. We quote pea, $2.25@$2.50; buckwheat, $1.85@$2.25; rice, $1.50@$1.70; all sizes f. o. b. New York.

NOTES OF THE WEEK.

The Philadelphia & Reading Coal and Iron Company makes the following report for September and the 3 months of the fiscal year from July 1st to September 30th:

	September.	Three mos.
Earnings	$2,757,160	$7,862,283
Expenses	2,483,360	7,224,825
Net earnings	$273,799	$637,458

For the 3 months there was an increase of $2,913,848, or 58.9%, in earnings; an increase of $2,632,532, or 57.3%, in expenses; and an increase of $281,316, or 79%, in net earnings.

The statement of the Lehigh Valley Coal Company for September and the 10 months of the fiscal year from December 1st to September 30th is as follows:

	September.	Ten mos.
Earnings	$1,759,775	$14,475,320
Expenses	1,760,516	14,993,213
Deficit	$741	$517,893

The gross earnings for the 10 months show an increase of $2,246,591, and the expenses an increase of $1,814,744, leaving a decrease of $431,847 in the deficit.

Bituminous.

The pressure for coal in the seaboard bituminous trade is greater than ever. Where a little coal could be secured by urgent buyers two weeks ago, it is now impossible to get any. The poorer grades are eagerly taken at prices 75c. to $1 higher than the regular figures and the better grades are out of the market altogether.

The great event of the week has been another jump in ocean freight rates. Firms that had delivered contracts to fill down east have been for some time gathering in all the vessel tonnage in sight, offering heavy demurrage charges to hold it. As a result, vessels are hard to get; charters are known to have been made at $2 for Philadelphia to Boston, and it is not likely that vessels can be had for less. This is higher than the Spanish fleet scare figures and 3 times as high as at this time last year. So far as one can see there is little likelihood of these rates falling much. The shoal water ports must have coal, and winter is approaching. It is evident, therefore, that those concerns which took delivered contracts last spring calling for indefinite amounts of coal at low figures are likely to get badly bit. It is also evident that soft coal is going to be higher next year. One cannot say how much higher, but there will be, as compared with this year, at least a 5c. advance in wages, probably a 20 to 25c. advance in rail freights, higher ocean freights and an indefinite advance in profits all around. Consequently an advance of 50c. a ton over this year's figures on next year's contracts is pretty certain and a $1 advance need not excite surprise.

The chief demand for coal continues to be from Eastern points. The shoal water ports want supplies as soon as possible, and ports along the Sound are just as persistent. All rail trade is cut down by producers as much as possible, yet it shows a large tonnage.

Transportation from mines to tide is fair. Car supply, after improving for a couple of weeks, has fallen off again. In the coastwise vessel market it is impossible to give current freight rates, as the market is bare of vessels. A $2 rate from Philadelphia to Boston means a $2.50 rate from the Chesapeake Bay ports. Possibly fair weather and fresh winds may bring in enough vessels to relieve the situation a trifle.

Sellers make prices on coal and it is difficult to say what are current prices.

Birmingham, Ala. Oct. 30.

There has been no change in the coal market in this district in the past week. The shortage of cars which seems to be playing havoc with the anticipated big rush for the product continues, and, though the railroad officials have promised to relieve the situation some, they have been unable to do anything that will help out. The mines are working hard, however, but not near as hard as they might do were they able to get all the cars they could use from the railroads. So far there has been no blocking of business, but the companies have not been able to do all the business they could handle. Prices are good and contracts have been made so that if there should be a great advance when the cold weather sets in the operators would be protected.

The coal miners are satisfield at every point except Galloway, in Walker County, where the strike which began a couple of weeks ago is still on. Some 250 men are out demanding an advance of 5c. per ton in their wages and recognition for the United Mine Workers of America.

Chicago. Oct. 31.

(From Our Special Correspondent.)

Anthracite Coal.—The weather of the past week has not been particularly favorable toward any increased buying of hard coal. The conditions are not improved so far as supply is concerned. Receipts by lake and by rail continue very limited. The short supply of chestnut coal has at last affected its price and the talk is of an advance of 25c. over the prevailing price of domestic sizes. Missouri River points will soon feel an advance of 50c. on freight rates, which is expected to take place November 15th. Circular prices continue $5.50 for broken and $5.75 for egg, stove and chestnut.

Bituminous coal has had another week of active business. The sales were larger in the aggregate than for the previous week. The buying is general, coming from manufacturing concerns, railroads, office buildings, etc., all taking unusually large quantities. Prices remain very firm with some tendency toward increase. Supply continues limited, cars being as yet unavailable to anywhere near the extent that shippers would require. Freight rates continue to advance.

Coke continues to be bought right and left wherever it can be had, but the supply is so limited that consumers have reason to worry. Prices are very firm, rates above circular willingly being paid.

Pittsburg. Nov. 2.

(From Our Special Correspondent.)

The expected advance in prices by the Monongahela River Consolidated Coal and Coke Company, the combination of river coal operators, was made public to-day and caused some surprise. It amounts to about 53c. a ton for 1¼-in. screened coal and fixes the price at $1.58 a ton delivered at the Pittsburg wharf. Sales of river coal are made by the bushel. The highest price before the combination took charge of the mines was 4c. a bushel for screened coal and the new price is 6c. Coal was sold as low as 3¾c. before the consolidation, but now the price is uniform. Nut coal, run-of-mine and slack have advanced in proportion to screened coal. The Pittsburg Coal Company, the combination of railroad coal operators, has made another advance which, it is expected, will soon be followed by a third. The latest price for 1¼-in. screened coal is $1.15 a ton at the mine. Added to this is a freight rate of 45c. a ton, which fixes the price delivered in Pittsburg at $1.60 a ton, or 2c. a ton higher than the river coal. The fact that railroad coal has always commanded 1c. a bushel more than river coal, or a fraction over 26c. a ton, leads to the belief that a further advance is contemplated by the Pittsburg Coal Company. The retail dealers in Pittsburg and vicinity have advanced prices from 1 to 2c. a bushel.

Connellsville Coke.—The production fell off slightly last week owing to the closing of two plants, but the car supply was better and the shipments increased 311 cars over the previous week. Furnacemen are urging larger shipments. All wants can be supplied if the railroads furnish the necessary number of cars. The shipments aggregated 10,588 cars, distributed as follows: To Pittsburg and river tipples, 3,395 cars; to points west of Pittsburg, 5,451 cars; to points east of Connellsville, 1,742 cars.

SLATE TRADE REVIEW.

New York. Nov. 3.

Buying of roofing slate is fair and there is still some trouble in getting prompt shipments of desirable sizes. Occasionally we hear of shading in prices, but most of the quarrymen and dealers hold to the schedule. The shipments of roofing slate from Slatington, Walnutport and Danielsville, Pa., for the week ending October 26th amounted to 5,659 squares, showing an increase of 263 squares over the previous week.

In manufactured slate business is regular. The shipments from Slatington, Walnutport and Danielsville, Pa., for the week of October 26th were as follows: School slates, 99 cases; blackboards, 607 crates; flagging, 10 pieces. These shipments are all less than the week of October 19th.

The exports of slate from the United States in September were valued at $95,872, against $126,682 in the same month last year. In the nine months ending September 30th these exports amounted to $989,986, showing a falling off of $65,209 as compared with the corresponding period in 1898.

The list of prices per square for No. 1 slate standard brand f. o. b. at quarries in carload lots is given below:

Prices of Roofing Slate.

Size, inches	Monson or Br'nville.	Bangor.	Bangor Ribbon.	Alb'n, or Jackson Bangor.	Lehigh.	Peach Bottom.	Sea Gr'n.	Unfad'g Green.	Red.
	$	$	$	$	$	$	$	$	$
24 x 14	6.10	3.50	3.00	3.35	3 25	5.10	3.00		.....
24 x 12	6.60	3.50	3.00	3.35	3.25	5.25	3.00	3.75	.....
22 x 12	6 60	3.50	3.25	3.50		5.25	3.00	3.75	.....
22 x 11	6.50	3.75	3.25	3 50	3 35	5.25	3.00	4.00	....
20 x 12	6 90	3.75	.....	3 50	3 35	5.25	3.00	3.75	.....
20 x 11	6.80	....	....	4 00	3.35	5.25	3.00	....	.....
20 x 10	6 80	4 50	3.50	4.00	3.60	5.35	3.25	4 25	9@10
18 x 12	6.80	3 75	....	3.50	...	5 25	3.00	3.50	.....
18 x 11	7.00	....	....	....	....	....	3.00	3.75	.....
18 x 10	7.20	4.50	3.50	4 00	3.60	5 35	3 25	4.00	9@10
18 x 9	7.10	4 50	3.50	4 00	3.60	5 35	3 00	4 25	9@10
16 x 12	6.80	3 75	....	3 50	....	....	2 85	3.50	.....
16 x 10	7.10	4 25	3.50	4 00	3.60	5 25	2 85	4.00	9@10
16 x 9	7.00	4 25	....	4.00	3.60	5 35	2.85	4.25	9@10
16 x 8	7.20	4 50	3.50	4.00	3.60	5.35	2.85	4 25	9@10
14 x 10	6 60	3.75	3.25	3.35	...	5 25	2.75	3.75	9@10
14 x 9	6.50	...	.....	.....		....	2.75	3 75	9@10
14 x 8	6 60	3.75	3 25	3.35	3.25	5.10	2.75	4.25	9@10
14 x 7	6.40	3.75	3 25	3 35	3.25	5.10	2.50	4.25	9@10
12 x 10	5.80	...	.	....	.....	...	2.50	3.25	.....
12 x 9	5.60	...	.....	.....	.....	....	2.50	3 25	....
12 x 8	5.50	3.50	.....	3.35	3.25	4 85	2.50	3.50	8¼@8¾
12 x 7	5.00	3.25	.....	3.35	3.25	4.85	2.50	3.50	8¼@8¾
12 x 6	4.80	3 25	.	3 35		4 75	....	3 50	8¼@8¾

A square of slate is 100 sq. ft as laid on the roof.

In Brownville and Monson delivery quotations can be had somewhat lower than above, which is also true of other brands. No. 1 Bangor are 50c. extra when full 3/16 in. Intermediate sea green, $2.25@$2.45 per square, according to size.

CHEMICALS AND MINERALS

(For further prices of chemicals, minerals and rare elements, see page 570.)

New York. Nov. 3.

Heavy Chemicals.—Soda ash is extremely scarce for prompt shipment, consequently high prices have been obtained for odd lots, while quotations as below are nominal. Bleaching powder is higher, owing to limited offerings and small imports. Domestic sal soda has been advanced, while chlorate of potash is easier and quiet. Receipts of domestic goods this week were 1,032 sacks, 642 drums and one car soda ash. The imports into the United States in the nine months ending September 30th were as follows, the figures in parentheses being for the corresponding period last year: Bleaching powder, 89,078,043 lbs. (80,141,204 lbs.); soda ash, 27,521,380 lbs. (54,807,174 lbs.); caustic soda, 10,108,529 lbs. (19,392,543 lbs.); sal soda, 5,462,904 lbs. (3,521,922 lbs.); chlorate of potash, 1,238,394 lbs. (3,708,418 lbs.). The re-exports were: Bleaching powder,

nil (28,495 lbs.); soda ash, 1,157,951 lbs. (2,195,645 lbs.); caustic soda, 802,053 lbs. (878,978 lbs.); sal soda, 14,280 lbs. (1,272 lbs.); chlorate of potash, 46,769 lbs. (11,383 lbs.).

Articles.	Domestic.		Foreign.
	F.o.b. Works.	In New York.	In New York.
Alkali, in bags.	80@85c.	87½@95c.	95@1.05
Caustic Soda, high test....	$1.80@1.85	$1.87½@1.95	$1.95@2.00
98% powd....	.....	3 12½@ 3.50	.. . .
60@74 % powd.	.....	2.50@ 2.62½	.....
Sal Soda	60@70c.	....	65@70c.
" conc.	1.25@1.75	....	1.60@1.65
Bicarb. Soda..	1.12½@1.25	.....	2.12½@2.25
" extra	3.25@3.50	.....	
Bleach. Pdr., Eng. prime..	.....	....	1.80@1.90
other br'nds.	....	....	1.70@1.75
Chl. Pot cryst	....	8.00	8.00@9.00
" powd.	....	9.25	8.75@9.50

Prices are generally for large quantities, and in many cases depend upon make, test and package.

Acids.—Higher prices are expected for acetic acid. Good request for muriatic and sulphuric acid. Combination of blue vitriol makers is hinted at; the demand is limited just now. United States exports of domestic acids in the nine months ending September 30th were valued at $117,602, against $135,455 in 1898. Copper sulphate exports were 26,063,198 lbs., valued at $1,145,948, against 12,611,979 lbs., valued at $400,135, in the same nine months last year.

Quotations are in large lots delivered in New York and vicinity, per 100 lbs. unless otherwise specified.

Acetic, No.8....	$1.62½@1.75	Nitric, 38°.....	$4.12½@4.62½
Blue Vitriol, best	5.00@5 25	Nitric, 40°.....	4.37½@ 4.50
Chamber, 50°, ton.	11.50@12.00	Nitric, 42°.....	4.75@ 5.00
Muriatic, 15°. ..	1.20@ 1.25	Oxalic.....	5.75@ 6.00
Muriatic, 20°. ..	1.25@ 1.30	Sulphuric, 66°....	1.10@ 1.15
Muriatic, 22°.....	1.30@ 1.40	Sulphuric, 60°	80@1.00
Nitric, 36°	3.87½@4.12½	Sulphurous, 100% SO_2 anhydrous.	8.00@10.00

Brimstone.—Arrivals this week, 2,700 tons. Spot best unmixed seconds are quoted steady at $22 per ton, and shipments at $21.50, while thirds are $2 less. United States imports in the nine months ending September 30th were 105,666 tons, against 137,788 tons last year. The re-exports were 477 tons, against 1,414 tons in 1898.

Pyrites.—Business is good. Freight market abroad is higher. Charters noted from Huelva, Spain, are 1,220 tons to Wilmington, N. C., at 14s. 6d.; 1,107 tons to Baltimore at 15s., and a cargo to Norfolk at 13s., November sailing. The United States imports in the nine months ending September 30th were 233,824 tons, valued at $808,146, against 93,571 tons, valued at $278,479, last year.

We quote American pyrites as follows: Mineral City, Va., lump ores, $3.25 per long ton (basis 42%), and fines $3; Charlemont, Mass., lump, $5.50, and fines $4.75; Pilley's Island, lump, $6.50, and fines $4.50 per long ton, delivered in New York. Spanish pyrites, 12@14c. per unit, according to percentage of sulphur contents, delivered ex-ship New York and other Atlantic ports. Spanish pyrites contain from 46% to 51% of sulphur; American, 42% to 44%, and Pilley's Island, N. F., 50%.

Fertilizing Chemicals.—Better demand for the leading ammoniates. Sulphate of ammonia to arrive is quoted at $2.82½@$2.85 per 100 lbs., and spot at $3, while domestic is worth $2.95 f. o. b. Boston. Dried blood, high grade, is easier at $1.67½ per 100 lbs. f. o. b. Chicago, and tankage, $14.50@$15 per ton. The other ammoniates and potash salts are unchanged in price. Imports this week included 868 bags sulphate of ammonia.

The imports of muriate of potash into the United States during the 9 months ending September 30th amounted to 66,937,100 lbs., against 61,257,620 lbs. in the same time last year. The exports of domestic fertilizers, not including phosphates, in the 9 months aggregated 37,508 tons, valued at $774,128, against 7,249 tons, valued at $203,974, last year.

Articles.	F. o. b. Wks.	In N. Y.
Potash, muriate, 80@85% 100 lbs.	.....	$1.78
" " 95% "	.....	1.81
" sulphate, 90% "	.....	1 98½
" " 90% "	.....	2.10½
" d'ble m're salt, 48@53% 100 lbs.	....	66c.
" " " 30% "	.....	80c.
" kainit, 12.4% long ton.	.....	8.70@8 95
" sylvanit.. per unit.	.....	37@38c.
Sulph. Am., gas (23%)....100 lbs.	.....	2 95@3.00
" bone ..... "	.....	2.77½@2.80
Blood, dried, h-gr, Chi. per unit	1.67½	.....
" " " N.Y., "	.....	1.80
Azotine..... "	1.75@1.80	1.80@ 1.85
Bone black, diss., 17@18%...ton	.....	16.00@16.50
Fish scrap, acid ..... "	10.50@11.00	12 50
" " dried ..... "	19 50@20	21 50
Tankage h. gr., Chicago.... "	14.50@15.00	21.00
" concentrated.. unit.	1.45@1.50	1.90@1.95
" bone. . ton.	.....	20.00@21.00
Bone, steam gd. domestic . "	.....	22.00@23 00

The quotations on potash are on the basis of foreign invoice weights, tares and analysis, in quantities of not less than 500 tons bulk salts or 50 tons concentrated salts.

Nitrate of Soda.—The market is higher, owing partly to scarcity of steamer freight room. Spot nitrate of soda is held at $1.72½@$1.75 per 100 lbs., with $1.70 quoted for next month's shipments. Offerings for the first half of 1900 are made at $1.67½, while $1.62½@$1.65 is asked for later arrivals.

In the 9 months ending September 30th the United States imported 102,960 tons nitrate of soda, against 107,683 tons in the same period last year. Of this amount there was re-exported 1,262 tons, against 504 tons in 1898.

Phosphates.—Business is quiet. Prices are unchanged. Recent charters noted include a vessel of 1,416 tons from Charlotte Harbor to Felixstowe Dock at 24s., sailing December 1st-15th; 1,441 tons from Fernandina to Hamburg at 19s. 3d., and 1,391 tons from the same port to Kastrup at 26s., November sailing.

The exports of domestic phosphates from the United States in the 9 months ending September 30th amounted to 680,759 tons, against 436,956 tons last year; besides, there were shipments of 723 tons foreign phosphates against 10 tons last year. Much the larger part of these exports was for Germany and the United Kingdom. Imports for the 9 months were 73,453 tons, against 26,008 tons in 1898, principally from Belgium.

Latest quotations for the European market, c. i. f. United Kingdom or North Sea ports, are as follows: Florida high grade rock (77@80%), 9d. ($14 per long ton); Florida pebble (68@73%), 7½d. ($10.50 per ton); Florida Peace River (58@63%), 7d. ($8.40 per ton); Tennessee high grade rock (78@80%), 7¾d. ($12 per ton); Algerian (63@70%), rock, 7¼d. ($9.38 per ton), and 58@63% rock, 6¾d. ($7.80 per ton).

We quote: Florida high grade, 75@80% rock, $9.50@$10 per long ton f. o. b. Fernandina. The freight rate to New York is about $2 per ton. Florida land pebble, 68@73%, $7@$7.50 per ton, delivered in New York. Florida, Peace River, rock, 58@63%, $4.50 per ton f. o. b. Punta Gorda. South Carolina crude rock, $4.25@$4.50; hot-air dried, $4.50@$5 per long ton f. o. b. Fetteressa, S. C. Tennessee, 78% rock, $3.80@$4 f. o. b. Mt. Pleasant, and 75% rock, $2.75@$3 f. o. b. High grade Tennessee rock, ex-vessel New York, $9@$10 per ton. Hickman County blue-gray rock, 65%, and not over 3% iron and alumina, $2.50@$2.75 per ton f. o. b. mines. Concentrated phosphates, 13@15% av. P_2O_5 60c. per unit at sellers' works. Acid phosphates, $6.25 per ton for 14% in bulk f. o. b. Charleston, S. C.

Valparaiso, Chile. Sept. 23.

(Special Report of Jackson Bros.)

Nitrate of Soda.—Holders have remained firm owing to the apparent limited offerings of nitrate for this year's shipment, and have raised their ideas to 5s. 3d. for 95% and 5s. 4d. for 96%, steamer terms, at which prices a few transactions have taken place. The European market although having slightly advanced for season sailings, is still far below the corresponding figures asked on this coast. The production for August is advised as 2,641,000 qtls., making a total of 9,729,000 qtls. for the 8 months, as against 18,512,000 qtls. during same period last year; on the other hand, the consumption for August is reported as 1,744,000 qtls., or say 24,433,000 qtls. for the 8 months, as against 22,219,000 qtls. up to same date 1898. We quate 95% October-November, 5s. 2½d.; December, 5s. 2d.; and for 1900, 5s., all ordinary terms sellers, the refined quality being obtainable at 5s. 3½d. for October-December shipment on same condition. The price of 5s. 2½d. with 27s. 6d. all round freight, stands in 7s. 2d. per cwt. net cost and freight, without purchasing commission. Reported sales are 209,000 qtls.

IRON MARKET REVIEW.

NEW YORK, Nov. 3, 1899

Pig Iron Production and Furnaces in Blast.

Fuel used	Week ending Nov. 4, 1898		Week ending Nov. 3, 1899.		From Jan., '98.	From Jan., '99.
	F'ces.	Tons.	F'ces.	Tons.	Tons.	Tons.
An' racite	28	21,150	45	39,150	966,723	1,425,196
Coke.....	148	203,320	196	238,550	8,579,049	9,576,195
Charcoal.	20	6,125	25	6,450	259,846	244,919
Totals..	196	230,625	266	284,150	9,805,618	11,246,310

The railroads are strongly in evidence in the iron market just now. Last week we referred to the large orders for steel rails, and this week heavy orders for cars and locomotives are being given. The amount to be spent in new equipment is very large.

As a consequence of these transactions the car-builders are buying foundry iron, bar iron and steel. The American Car and Foundry Company has placed contracts for 30,000 tons of pig iron for delivery in the first half of next year.

There are some further sales of Bessemer pig reported, the current price being about $23.50 for Pittsburg delivery. Steel billets are still in demand.

It looks as if some new wire plants, with strong backing, will be in the field before long. The American Steel and Wire Company will not have a clear field, by any means.

Birmingham, Ala. Oct. 30.

(From Our Special Correspondent.)

There is much inquiry being made as to the earliest moment iron can be shipped. Purchasers are not scared off on account of the high prices and are entering the market when they find that they can get delivery when needed. The blowing in of furnaces continues. The Trussville Furnace is almost ready for the torch; also the old Williamson Furnace in the city here, leased recently by the Perry Brothers.

Quotations have not changed recently and there are no indications of an abatement of the high figures given. The following are the figures given: No. 1 foundry, $18.50@$19; No. 2 foundry, $17.75@$18.50; No. 3 foundry, $16.75@$17.50; No. 4 foundry, $16@$16.50; gray forge, $16@$16.25; No. 1 soft, $18.50@$19; No. 2 soft, $17.75@$18.50.

The finished iron market is still active, with a good demand. The foundries and machine shops cannot do all the work that has been tendered them.

Figures have been compiled of the shipments of pig iron from Alabama and Tennessee and from the Birmingham District during the month of September and for the 9 months up to October 1st: From Alabama and Tennessee, 1,162,216 tons of pig iron, an increase of 202,774 tons. The Birmingham District alone furnished 692,437 tons, an increase of 87,685 tons. The total pipe shipments from Alabama and Tennessee amounted to 127,125 tons, an increase of 31,439 tons, while the Birmingham District alone shipped 50,880 tons, an increase of 17,485 tons as compared to shipments during the same period last year. Export pipe shipments aggregate for the period 10,148 tons, of which practically all went from Bessemer. Export pig iron shipments for the 9 months of the year amounted to 141,002 tons, an increase of 31,763 tons. During the month of September there were shipped from Alabama and Tennessee 135,360 tons of pig iron, showing an increase of 15,369 tons as compared to the previous September. From the Birmingham District alone there were shipped 83,403 tons of pig iron, an increase, as compared to the same month in 1898, of 3,403. From Alabama and Tennessee during the month of September there were shipped 11,821 tons cast iron pipe, an increase of 721 tons as compared to the previous September, while the Birmingham District alone shipped 5,335 tons of cast iron pipe, showing an increase of 1,835 tons. During the month of September there were shipped 13,284 tons of export iron, a decrease of 6,716 tons as compared to the shipments in September, 1898, while Bessemer exported 817 tons of cast iron pipe.

It is estimated that by the first of January there will be 33 out of the 37 coke furnaces and 6 charcoal furnaces in blast, a net increase of 15 furnaces for the year.

Buffalo, N. Y. Oct. 31.

(Special Report of Rogers, Brown & Co.)

Buyers and sellers hereabouts are recovering the breath which was taken away by the unprecedented transactions of last week in steel and railway equipment. Both are trying to adjust themselves to the fact that the bulk of the pig iron and steel production for next year is now placed and are asking themselves what they had better do under the circumstances. So far nothing has transpired further than that sellers have stiffened in their views somewhat and a few buyers who had covered for the first half of the year are now covering for the last half.

Prices remain unchanged and are given below on the cash basis f. o. b. cars Buffalo: No. 1 strong foundry coke iron, Lake Superior ore, $24@$24.50; No. 2 strong foundry coke iron, Lake Superior ore, $23.50@$24; Ohio strong softener No. 1, $23.50@$24; Ohio strong softener No. 2, $23@$23.50; Jackson County silvery No. 1, $31; Southern soft No. 1, $23.50; Southern soft No. 2, $22.50; Lake Superior charcoal, $24@$25; coke malleable, $24@$24.50.

Cleveland, O. Oct. 31.

(From Our Special Correspondent.)

Iron Ore.—There is little or no change here in the iron ore situation since a week ago. Little of any kind or grade deliverable this year can be offered for sale. No sales of next season's ore have been made or are likely to be made before December. The contracting of vessels for next year's ore is also quiet. Many agents of ore companies have engaged nearly all the tonnage they want next year and shipments of this season's ore are still going on as rapidly as possible. Rates for carrying ore remain at $1.75 from the head of Lake Superior, or $1.60 from Marquette and $1.35 from Escanaba.

The following are figures obtained for ore in sales as they are made at present: Specular and magnetic ores, Bessemer quality, $6@$6.25; specular and magnetic ores, non-Bessemer, $5; red hematite ores, Bessemer quality, $5@$5.25; red hematite ores, non-Bessemer quality, $4@$4.50.

Pig Iron.—Only a moderate volume of business was done in the pig iron market during the past week. Many buyers are fairly well supplied for the present and sellers have very little to offer which can be delivered this year. All grades of iron remain firm.

The following are the present quotations for pig iron f. o. b. Cleveland: Lake Superior charcoal, $25; Bessemer, $24; No. 1 foundry, $23; No. 2, $22.50; No. 1 Ohio Scotch, $22; No. 2, $21.50; gray forge, $19.

Pittsburg. Nov. 1.

(From Our Special Correspondent.)

There has been but little change in the iron and steel market during the week. The production has not yet caught up to the demand. Buying for next year is almost the same as for delivery this year, except a slight difference in prices. At the rate orders are being placed for future delivery it is certain that the present level of prices will continue throughout the first three-quarters of 1900. Prices are not likely to go any higher, but there is no indication they will be lowered for a long time. A large number of small lots of Bessemer pig iron, aggregating a big tonnage, have been sold during the week for delivery next year at $23 and $23.50. For this year a few lots can be obtained at $24.50@$25. The strike of iron molders which ended on Tuesday pending an arbitration of the wage differences, had the effect of weakening the demand for foundry iron and No. 1 dropped to $23.50 and No. 2 to $22.50@$23, and No. 3 $1 lower. The demand for muck iron has increased and prices have advanced, being quoted this week at $33@$35 according to quantity. The demand for steel bars has also increased and prices have advanced to 2.75@3c. The failure of the projectors to perfect their plans for a combination of the steel interests has strengthened prices and No. 28 gauge is quoted at 3.30c. The options on the plants expired to-day. It is reported that an effort is to be made to renew them, but, according to one of the principal promoters, there is but little prospect of success. The scarcity of tin plate bars has caused a number of tin plate mills to close temporarily. Steel billets are quoted at $40@$42 a ton and a sale was made by a local concern during the week at the latter figure. Sales have been made for delivery next year at $38.

Pig Iron.—But little Bessemer pig iron remains for sale this year and the price asked is $25, although a sale of a small lot was made at $24.50. Foundry iron was lower this week, but with the closing of the molders' strike former prices are expected to rule next week. No. 1 is quoted to-day at $23.50; No. 2 at $22.50@$23; No. 3 at $21.50@$22.

Steel.—The demand for billets is greater than last week and $40@$42 is asked. Steel bars are in good demand and 2.75@3c. is quoted.

Sheets.—The market is stronger and No. 28 gauge is quoted at 3.30c. Galvanized sheets are 70, 10 and 5 per cent. off and 15c. freight.

Ferro-manganese.—The market is strong and domestic is quoted at $100 in large lots and $125 for small quantities.

New York. Nov. 3.

The domestic iron market continues active and strong. In foreign trade we note a shipment of $33,010 worth of metal working machinery for Japan; orders for $12,000 worth of agricultural implements and $15,300 worth of mining machinery for Mexico and shipments of $30,000 worth of mining machinery and $35,000 worth of manufactured iron to South Africa.

Cast Iron Pipe.—While the price of pipe has not risen as fast as the price of pig iron, yet prices are high enough to restrict sales, particularly on large sizes. We quote the smaller sizes at about $30 per ton.

Pig Iron.—Transactions show a falling off, few large sales being reported. We quote for delivery within a few months Northern brands, tidewater delivery: No. 1 X foundry, $24.50; No. 2, $23.50; No. 2 plain, $22.25. Southern brands, New York delivery: No. 1 foundry, $23.75; No. 2 foundry, $22.75; No. 1 soft, $22.50; No. 2 soft, $22; No. 3 foundry, $21.50.

Warrant Irons have shown a farther decline during the week. Alabama No. 2 foundry fell to $16½; No. 3 to $15; No. 4 to $14½ and gray forge to $14½.

Bar Iron and Steel.—The market continues good. We quote refined iron as high as 2.35c. on dock, and common, 2.15c. Soft steel bars, 2.55c.

Plates.—There is no change in the situation; mills busy; prices firm; local demand for small lots. We quote for large lots at tidewater: Tank, ¼-in. and heavier, 3.10@3.15c.; tank, 3/16-in., 3.20@3.25c.; shell, 3.25@3.30c.; flange, 3.40@3.45c.; marine, 3.45@3.50c.; firebox, 3.50@3.55c.; universals, 2.95c. Tank ¼-in. plates for immediate delivery are quoted up to 4c.

Steel Rails and Rail Fastenings.—The very heavy transactions of the past few weeks are succeeded by a period of inactivity so far as new business is concerned. We quote for standard sections $35@$36 f. o. b. Eastern mills. Smaller rails are quoted: 12-lb., $40; 16-lb., $40; 20-lb., $40; 30-lb. to 40-lb., $38; 40-lb. to standard, $37, with the usual advance for small orders. We quote angle bars, 2.45c.; fish plates, 2.40c.; spikes, 2.75c.

Structural Material.—There are very fair sized orders placed right along, in spite of the high prices. We quote for large lots at tidewater: Beams, 15-in., 3.50c.; tees, 2.55c.; channels, 2.55c.; angles, 2.45c., with higher figures for prompt delivery.

METAL MARKET.

New York, Nov. 3, 1899.

Gold and Silver.

Gold and Silver Exports and Imports
At all United States ports in September and year.

	September.		Year.	
	1898.	1899.	1898.	1899.
GOLD.				
Exports	$3,102 810	$1,056,749	$12,781,923	$33,315.592
Imports	16,808,341	2,572,028	127,343,816	34,246,555
Excess	I. $13,705,531	I. $1,515,279	I.$114,561,893	I. $930,963
SILVER.				
Exports	5,152.103	3,622,147	39,433,500	38,738,937
Imports	2,000,696	2,046,914	21,099,224	22,388,163
Excess	E. $3,151,407	E. $1,581,233	E.$18,334,226	E.$16,350,374

This statement includes the exports and imports at all United States ports, the figures being furnished by the Treasury Department.

Gold and Silver Exports and Imports, New York

For the week ending November 2d, 1899, and for years from January 1st, 1899, 1898, 1897, 1896.

Period.	Gold.		Silver.		Total Excess, Ex. or Imp.
	Exports.	Imports.	Exports.	Imports.	
We'k	.....	$473,696	$548,021	$171,013	I. $96,688
1899..	11,646,120	13,602,747	24,231,061	3,209,233	E. 19,065,210
1898..	7,231,699	95,568,210	28,710,023	2,589 951	I. 62,135,439
1897..	48,149,031	13.376,167	83,492,985	2,095.981	E. 66,169,648
1896..	40,496,948	72,888,535	31,914,431	3,354,181	I. 3,631,287

There were no exports of gold; the imports were from various sources. Exports of silver went chiefly to London; the imports were from Mexico and the West Indies,

The United States Assay Office in New York reports the total receipts of silver at 254,000 oz. for the week.

Prices of Foreign Coins.

	Bid.	Asked
Mexican dollars	$ .47¼	$ 49
Peruvian soles and Chilean pesos	.42½	.44½
Victoria sovereigns	4.85	4.88
Twenty francs	3.84	3.88
Twenty marks	4.74	4 79
Spanish 25 pesetas	4.78	4.82

Average Prices of Silver per oz. Troy.

Month.	1899.		1898.		1897.	
	Lond'n Pence.	N. Y. Cents.	Lond'n Pence.	N. Y. Cents.	Lond'n Pence.	N. Y. Cents.
January	27.42	59.36	26.29	56.7	29.74	64.79
February	27.44	59.42	25.89	56.07	29.68	64.67
March	27.48	59.64	25.47	54.90	28.96	63.06
April	27.65	60.10	25.95	56.02	28.36	61.85
May	28.15	61.23	26 31	56.98	27.86	60.42
June	27 77	60.43	27.06	58.61	27.58	60.10
July	27.71	60 26	27.32	59.06	27.36	59.61
August	27.62	60.00	27.48	59.54	24.93	54.19
September	27.15	58.89	28.05	60.68	25.66	55.04
October	57.98	26.70	27.96	60.42	26.77	57.57
November	.....	.....	27.93	60.60	26.87	57.93
December	.....	.....	27.45	59.42	26.83	58.01
Year	.....	.....	26.76	58.26	27.55	59.79

The New York prices are per fine ounce; the London quotation is per standard ounce, .925 fine.

Average Prices of Metals per lb., New York.

Month.	COPPER.		TIN.		LEAD.		SPELTER.	
	1899.	1898.	1899.	1898.	1899.	1898.	1899.	1898.
Jan	14.75	10.99	22.48	13.87	4.18	3.65	5.34	3.96
Feb	18.00	11.28	24 20	14 08	4.49	3.71	6.28	4.04
March	17.54	11.98	23.82	14 38	4.37	3.72	6.31	4.25
April	18.43	12.14	24.98	14.60	4.31	3.63	6.67	4.26
May	18.25	12 00	25.76	14.52	4.44	3.64	6.88	4.27
June	17.93	11 89	25.85	15.22	4.43	3.82	5.98	4.77
July	18 33	11.63	29.63	15.60	4.52	3.95	5.82	4.66
August	18.50	11 89	31.53	16.23	4.57	4.00	5.65	4.58
Sept	18.46	12.31	32 74	16.03	4.58	3.99	5.50	4.67
October	17.76	12.41	31.99	17.42	4.575	3.78	5.32	4.98
Nov	.....	12-86	.....	18.20	.....	3.70	.....	5.29
Dec	.....	12.93	.....	18.30	.....	3.76	.....	5.10
Year	.....	12.09	.....	15 70	.....	3.78	.....	4 57

The price given in the table is for Lake Copper. The average price of electrolytic copper in January was 14.26c.; in February it was 17.02c.; in March, 16.35c.; in April, 17.13c.; in May, 17. 2c.; in June, 16.89c.; in July 17.099c.; in August, 17. 42c; in September, 17.34c; in October, 16. 94c.

Financial Notes of the Week.

Business shows little change from the general condition of activity. The stock markets are still variable, but upon the whole rather stronger. The demand for money from the interior is less pressing.

The receipts of the United States Treasury in October are reported at $47,533,588, and for the 4 months of the fiscal year from July 1st to October 31st at $190.900,165. The payments in October were $44,012,000, and for the 4 months, $183,674,675, showing a surplus thus far in the fiscal year of $7,225,490.

Imports and Exports of Metals.

Port.	Week, Nov. 1.		Year 1899.	
	Expts.	Impts.	Expts.	Impts.
***New York.**				
Aluminum.....long tons	13	.....	346	12
Antimony ore... " "	.....	133	.....	1,433
" regulus.. " "	.....	140	.....	920
Chrome ore..... " "	.....	.....	.....	2,043
Copper, fine ..... " "	2,311	410	48.699	22,499
" matte.. " "	.....	.....	553	928
" ore..... " "	.....	2,782	.....	45,123
" ash..... " "	.....	110	.....	197
" sulphate " "	.....	.....	11,550	.....
" other... " "	.....	.....	.....	135
Cop-nickel matte " "	.....	.....	.....	53
Ferro-mangan'se " "	.....	.....	.....	278
Iron ore ..... " "	.....	.....	.....	50
" pig, bar, rod " "	212	153	5,799	3,373
" pipe..... " "	464	.....	23,852	.....
" plates, sheets " "	.....	.....	748	146
" other.. ..... " "	15	.....	1,194	.....
Lead..... " "	800	1,500	46,705	46,418
" ore..... " "	.....	.....	.....	941
Manganese, ore. " "	.....	.....	.....	5,880
Metals, old scrap " "	55	170	4,782	3,920
Composition.. " "	.....	.....	6,249	140
Nails. ..... " "	114	.....	16,115	.....
Nickel " "	.....	.....	1,612	105
" Ore " "	.....	151	.....	4,071
§Railr'd material " "	35	176	7,157	3,628
Rails, old..... " "	.....	.....	15,417	.....
Spiegeleisen..... " "	.....	125	.....	675
Steel bars, plates " "	1,758	1433	39,743	13,971
" rails..... " "	.....	.....	14,032	155
" hoops..... " "	.....	1100	831	100
" wire..... " "	1,353	.....	34,014	1,225
" not specl'd " "	138	151	25,192	11,445
Tin " "	.....	410	.....	24,233
" dross or ashes " "	.....	.....	63	.....
" and black plates" "	.....	1468	.....	29,663
Zinc..... " "	.....	.....	272	358
" dross..... " "	.....	.....	437	.....
" ashes, skim " "	.....	140	2,098	275
" ore.. ... .. " "	1,475	.....	8,447	.....
" oxide ..... " "	59	.....	3,622	288
†Baltimore.				
Alumina.. ..... bags	.....	.....	.....	3,479
Antimony regulus...casks	.....	.....	.....	286
Chrome Ore.....long tons	.....	.....	.....	2,300
Copper, fine..... " "	1,094	.....	30,005	1,875
" matte.. " "	.....	.....	.....	.....
" sulphate " "	.....	.....	1,562	.....
" pipe..... " "	.....	.....	100	.....
Ferro-manganese " "	.....	.....	.....	2,163
Ferro-silicon..... " "	.....	.....	184	95
Iron pig, bar, etc. " "	.....	50	1,209	6,214
" ore..... " "	.....	6,819	.....	216,818
" pyrites..... " "	.....	2,260	.....	43,867
Manganese ore.. " "	.....	6,130	.....	63,811
Metals, scrap.... " "	.....	.....	4,604	24
Nails ..... " "	.....	.....	691	.....
Pipe, iron & steel " "	215	.....	11,527	.....
Spiegeleisen.. " "	.....	60	.....	1,082
Steel, bars, pl'es.. " "	431	.....	34,385	.....
" wire ... " "	.....	10	1,011	33
" rails..... " "	2,906	.....	67,233	276
not specified.. " "	.....	.....	2,761	23
Tin..... " "	.....	.....	563	.....
" dross..... " "	.....	.....	.....	.....
" and blackplates" "	.....	67	.....	2,494
" other..... " "	.....	.....	43	.....
Zinc..... " "	.....	.....	25	5
" dross " "	.....	.....	231	.....
" skimmings.. " "	.....	.....	131	.....
***Philadelphia.**				
Antimony.....long tons	.....	.....	.....	10
Chrome ore..... " "	.....	.....	.....	3,000
Copper ore..... " "	.....	.....	.....	36,507
" old..... " "	.....	.....	.....	11
Ferro-manganese " "	.....	.....	.....	1,442
Ferro-silicon ... " "	.....	.....	.....	160
Iron, pig..... " "	.....	.....	.....	3.570
" ore..... " "	.....	.....	.....	214,868
" pyrites..... " "	.....	.....	.....	10,153
Manganese ore.. " "	.....	16,680	.....	73,298
Steel sheets.. " "	.....	.....	.....	510
Spiegeleisen..... " "	.....	.....	.....	2 070
Tin.. ..... " "	.....	.....	.....	1.050
" and black plates" "	.....	.....	.....	4,356
Zinc dust ..... " "	.....	110	.....	10
" ore ... .. " "	.....	.....	3,093	.....

Total United States.§§

Articles.	Sept.		Jan.—Sept.	
	Expts.	Impts.	Expts.	Impts.
Antimony.. long tons	...	105	8	1,113
" ore.... " "	.....	238	.....	1,680
Copper fine " "	8,412	3,391	74.486	20,169
" sulphate " "	193	.....	11,635	...
" ore & matte " "	211	956	4,005	7,199
Iron, pig & bar.. " "	17,875	4,958	203,920	36,509
" ore..... " "	5,417	54,184	21.090	425,475
Iron& steel plates " "	3,624	880	48.139	3,123
Iron & steel rails " "	27.060	.....	185,997	1,123
" " wire " "	11,499	195	86,457	1,999
Steel, billets, rods, etc..... " "	1,600	2,577	63,720	22,024
Lead, pigs, bars & old ..... " "	1	1	46	207
Lead in ore..... " "	4,265	6,879	52,371	64,298
Nails, cut..... " "	1,400	.....	7,679	.....
" wire .... " "	2,976	.....	23,059	.....
Tin..... " "	43	4,824	329	27,517
" plates..... " "	5	4,921	223	42.987
Zinc ..... " "	8	106	5,764	904
" ore ..... " "	1,743	.....	18,537	.....

*New York Metal Exchange returns. †By our Special Correspondent. §Not specified. ‡Week ending Oct. 27th. §§ Monthly returns of the Treasury Department.

The duties on metals under the present tariff law are as follows: Antimony, metal or regulus, ¾c. a lb. Lead, 1½c. a lb. on lead in ores; 2½c. per lb. on pigs, bars etc.; 2¾c. on sheet, pipe and manufactured forms. Nickel, 6c. per lb. Quicksilver, 7c. per lb. Spelter or zinc, 1½c. per lb. in pigs and bars; 2c. on sheets, etc. Copper, tin and platinum are free of duty.

A small French order stiffened the price of silver to 26¾d., but the market has since relaxed and demand appears to be moderate at 1/16d. less. Otherwise there is no feature.

Imports of specie at San Francisco by water in September were $1,217,135, of which $262,021 was silver and $955,114 gold. For the nine months ending September 30th the receipts were:

	Coin.	Bullion.	Totals.
Gold	$12,053,419	$671,852	$12,725,271
Silver	415,746	1,300,083	1,715,829
Totals	$12,469,165	$1,971,935	$14,441,100

The receipts were from the following sources: Mexico, $2,044,248; British Columbia, $224,704; Australia, $11,349,408; Central America, $194,679; Japan, $266,025; China, $281,680; Manila, $20,000; Honolulu, $59,466; miscellaneous, $890.

For the 10 months ending October 31st receipts of gold and silver at the United States Assay Office in Seattle, Wash., are reported at $11,611,-204. The office was opened for business July 15th, 1898.

The statement of the United States Treasury on Wednesday, November 1st, shows balances in excess of outstanding certificates as below, comparison being made with the statement for the corresponding day of last week:

	Oct. 26.	Nov. 1.	Changes.
Gold	$253,513,001	$252,223,796	D. $1,289,205
Silver	8,508,989	9,139 956	I. 630,967
Legal tenders	15,839,937	15,681,350	D. 158,587
Treas notes, etc.	847,204	934,386	I. 87,182
Totals	$278,709,131	$277,979,488	D. $729,643

Treasury deposits with national banks amounted to $82,056,939, a decrease of $454,271 during the week.

The statement of the New York banks—including the 63 banks represented in the Clearing House—for the week ending October 28th, gives the following totals, comparison being made with the corresponding weeks in 1898 and 1897:

	1897.	1898.	1899.
Loans and discounts	$567,200,500	$667,232,600	$695,777,000
Deposits	625,339.200	761,574,200	761,635,500
Circulation	16,071,300	15,538,500	15,815,400
Reserve:			
Specie	101,611,300	161,346,500	144,336,900
Legal tenders	78,995 300	55,138,600	49,110,500
Total reserve	$180,606,600	$216,485,100	$193,447,400
Legal requirements	156,344,800	190,393,550	190,408,875
Balance, surplus	$24,271,800	$26,091,550	$3,038,525

Changes for the week this year were increases of $4,766,900 in loans and discounts, $88,000 in circulation, $662,600 in specie, and $1,597,450 in surplus reserve; decreases of $6,740,200 in deposits, and $750,200 in legal tenders.

The following table shows the specie holdings of the leading banks of the world at the latest dates covered by their reports. The amounts are reduced to dollars, and comparison is made with the holdings at the corresponding dates last year:

	1898.		1899.	
Banks.	Gold.	Silver.	Gold.	Silver.
N.Y. Ass'd	$161,346,500	.....	$144,336,900	.....
England	158,042,155	.....	168,833,585	.....
France	368,280,900	$245,005,745	378,077,510	$234,171,415
Germany	120,145,000	61,895,000	120,430,000	62,040,000
Spain	55,215,000	23,750,000	67,955,000	68,880,000
Aus.-Hun	176,910,000	62,505,000	184.590,000	62,920,000
Neth'l'ds	21,575,000	33,355,000	14,475.000	29,255,000
Belgium	14,225 000	7,110,000	15,095.000	7,545,000
Italy	73,990,000	11,170,000	77.650,000	7.180.000
Russia	501,785,000	18,340,000	429,365,000	22,140,000

The returns of the Associated Banks of New York are of date of October 28th, and the others are of date of October 26th, as reported by the "Commercial and Financial Chronicle" cable. The New York banks do not report silver separately, but the specie carried is chiefly gold coin. The Bank of England reports gold only.

Shipments of silver from London to the East for the year up to October 19th, 1899, are reported by Messrs. Pixley & Abell's circular as follows:

	1898.	1899.	Changes.
India	£3,750,000	£4,377,025	I. £627.025
China	486.107	1,058,163	I. 572,055
The Straits	360,641	226,508	D. 134,133
Totals	£4,596,748	£5,661,696	I.£1,064,948

Arrivals for the week this year were £137,000 from New York, and £18,000 from India; total, £155,000, all bar silver. Shipments were £200,000 in bar silver to Bombay.

Indian exchange continues quiet, Council bills being taken in London at an average of 16.10d. per rupee. The silver lately referred to as offered for sale in India is from the treasure of the Maharajah of Gwalior, who is said to possess 6 crores of rupees (about $20,000,000) in silver. The amount now offered for sale is valued at 75 lakhs, or about $2,500,000.

Other Metals.

Daily Prices of Metals in New York.

Oct.-Nov.	Sterling Exchange.	Silver. Fine oz. Cts.	Silver. London. P'nce	Copper. Lake cts. ₱ lb.	Copper. Electrolytic. ₱ lb.	Copper. Lond'n standard £ ₱ ton.	Tin, cts. ₱ lb.	Lead cts. ₱ lb.	Spelter, cts. ₱ lb.
28	4.87	57⅞	26⅝	17	16¾	.....	31	4.57½	5.00
30	4.87	58	26½	16⅞	16½	73 5 0	30⅞	4.57½	5.00
31	4.86½	58⅛	26¾	16⅞	16⅛	72 10 0	30⅞	4.57½	4.95
1	4.86⅛	58⅛	26¾	16⅞	16⅛	72 5 0	30¾	4.57½	4.95
2	4.86¾	58	26⅛	16⅛	16¼	72 0 0	30¾	4.57½	4.92½
3	4.86¾	58⅛	26⅛	16⅛	16⅜	73 7 6	30¼	4.57½	4.95

The quotations given for electrolytic copper are for cakes, ingots and wirebars; the price of electrolytic cathodes is usually 0.25c. lower than these figures.

Copper.—The market is very quiet and dull. Buyers have held off completely, but values have not changed much, as no further pressure to sell has developed. Lake copper has during the last few days been offered at 17c., but we cannot learn that any transactions have taken place. We quote electrolytic copper at 16¾c. in cakes, bars and ingots, and at 16½c. in cathodes. Casting copper is nominal at 16⅝c.

The speculative market abroad has fluctuated considerably. The market, which closed last week at £73 10s., opened 7s. 6d. higher, but receded on Wednesday to £72 7s. 6d., and on Monday to £71 17s. 6d. It closes at £73 7s. 6d. for spot, £73 5s. for three months.

Statistics for the second half of October show an increase of 600 tons.

Refined and manufactured sorts we quote: English tough, £77 7s. 6d.@£77 17s. 6d.; best selected, £79 2s. 6d.@£79 12s. 6d.; strong sheets, £86@£86 10s.; India sheets, £83@£83 10s.; yellow metal, 6⅝@6⅞d.

Tin.—The market has ruled quiet and weakish, and lower prices have been accepted in harmony with the values established in London. Sales ranged from 31c. to 30½c.

Abroad the market, which had closed last week at £142, opened at £141 10s. and declined steadily to £139 5s. It closes at £137 10s. for spot, £137 5s. for three months.

The tin statistics for October show a decrease of 100 tons.

Total shipments of tin from the Straits in October are reported at 3,700 tons. The visible stocks of tin on November 1st are reported as follows, in long tons of 2,240 lbs.:

	In store.	Afloat.	Totals.
London	5,236	2 865	8,101
Holland	2,531	1,467	3,997
U. S. exp. Pacific ports	3,673	2,384	6,058
Totals	11,440	6,716	18,156

This is a decrease of 714 tons, or 3.7%, from October 1st, and of 4,762 tons, or 20.7%, from November 1st, 1898.

Imports of tin into the United States for the nine months ending September 30th are reported by the Bureau of Statistics at 61,638,392 lbs., against 49,882,778 lbs. last year; an increase of 11,755,614 lbs., or 23.6%. Of the imports this year 42,861,837 lbs. were from the East, the rest from Europe.

Imports of tin into Great Britain for the nine months ending September 30th were: Straits, 13,445 long tons; Australasia, 2,220 tons; other countries, 3,438 tons; total, 19,103 tons, against 14,995 tons last year.

Lead.—The market continues firm. There is considerable buying both in the East and West. Manufacturers generally appear to have very light stocks. Prices are unchanged and we quote 4.55@4.60c. New York, 4.45@4.50c. St. Louis.

The European market has been strong and advancing. Spot lead sold as high as £17 10s. We quote Spanish lead at the close at £17 5s., and English lead 5s. higher.

Imports of lead into the United States for the nine months ending September 30th are reported by the Bureau of Statistics at 144,423,667 lbs., of which 127,554,642 lbs. were from Mexico and 15,-558,909 lbs. from Canada. The total shows an increase of 12,078,004 lbs., or 9.1%, over last year. Exports of foreign lead were 117,329,294 lbs., showing an increase of 6,206,969 lbs. over last year.

St. Louis Lead Market.—The John Wahl Commission Company telegraphs us as follows: The lead market is dull and uninteresting. Common metal is selling at 4.45@4.47½c. Corroding lead is 4.50@4.52½c. Trading has been exceedingly light.

Spelter.—Some pressure to sell has developed and values have been affected in consequence. The metal must now be quoted at 4.70@4.75c. St. Louis; 4⅞@5c. New York.

In London spelter is quoted at £21 10s. for good ordinaries, 5s. higher for specials. Our cables report a firmer market there.

Exports of spelter from the United States for the nine months ending September 30th are reported by the Bureau of Statistics at 12,890,648 lbs., against 16,604,343 lbs. in 1898; a decrease of 3,713,695 lbs., or 22.4%. Exports of zinc ore were 18,537 short tons, against 8,118 tons; an increase of 10,419 tons, or 128.8%, this year.

Antimony is without change, and we quote Cookson's at 10½@11c.; Hallett's, 9¾@9⅞c.; U. S. Star and Hungarian at 9½@9⅝c.

Nickel continues on unchanged lines, and no alteration in prices can be reported. We quote for ton lots 33@36c. per lb., and for smaller orders 35½@38c. London prices are 14@16d. per lb., according to size of order.

Platinum.—Demand is good, and prices are firmer. In large lots we quote $17.75, and for smaller quantities, $18 per oz., in New York.

For chemical ware (crucibles and dishes), best hammered metal, we quote as follows: In lots of 250 grams or more, 67½c. per gram, and for smaller quantities, 70c. per gram; unmanufactured platinum will be supplied in same quantities at 2c. less per gram.

Quicksilver.—The New York quotation is unchanged at $48 per flask. The London price has been raised 7s. 6d., and is now £9 5s. per flask, with the same figure quoted from second hands.

Exports of quicksilver from all United States ports for the nine months ending September 30th are reported by the Bureau of Statistics at 1,079,832 lbs., against 729,440 lbs. in 1898; an increase of 350,392 lbs., or 48.1%, this year.

The Minor Metals.—Quotations are given below for New York delivery:

Aluminum.	Per lb.		Per lb.
No. 1, 99% ingots	35@37c.	Bismuth	$1.45@$1.50
No. 2, 90% ingots	31@34c.	Magnesium	$2.75@$3
Rolled sheets	38c. up	Phosphorus	40@50c.
Alum.-bronze	20@23c.	Tungsten	70c.
Nickel-alum	33@39c.	Ferro-tungsten, 60%	60c.

Variations in price depend chiefly on the size of the order.

LATE NEWS.

A meeting of the stockholders of the Lackawanna Iron & Steel Company will be held in Scranton, Pa., on December 29th, to vote on a proposition to increase the capital stock of the company from $3,500,000 to $25,000,000. This is one of the steps in the direction of establishing the large steel rail and billet plant at Buffalo, planning for which has been in progress for upward of a year. It is understood that the actual work of construction will begin early next year.

A dispatch from Lima, O., says: On November 1st the price of Lima crude oil advanced 2c. a barrel, while the Eastern oil went up 3c. There has been no decline in the price of oil since the advance started at 45c. several months ago. The advances have not increased production enough to prevent drawing upon stocks, and shipments continue to exceed runs by 20,000 bbls. a day. North Lima is quoted now at $1.11, South Lima at $1.06, and Indiana at $1.06.

The oil industry appears to have shared in the increase of activity in business generally. During October there was a material increase in the number of new wells drilled and some gain in the new output of oil. In the Pennsylvania fields the month was a record breaker in respect to the number of new wells put into operation. Considerably more than 800 wells were completed during the month, and of these nearly 700 were oil producers, the others being dry holes. The new output of oil was nearly 12,000 barrels; while this did not make a new record, there was a substantial gain in this respect also. The largest new production was in October, 1891. In the Indiana oil fields there was a moderate increase in the number of wells drilled. In Ohio, however, the new construction was rather behind that of September. In all sections, however, there was an increase in the amount of new work under way.

Philadelphia advices state that the capital of the proposed Atlantic Iron & Steel Company will be $10,000,000 instead of $20,000,00 as at first suggested. One reason for this is the failure to take in the Birdsboro Iron & Steel Company. Of the $10,000,000 half is to be in 7 per cent. preferred stock. The new company is to take over the New Haven Iron & Steel Company and the Susquehanna Iron & Steel Company. The common and preferred stock will each be $5 par. For each share of stock of both the New Haven and the Susquehanna Iron & Steel companies there will be exchanged 1½ shares of the preferred stock of the Atlantic Iron & Steel Company, with the right of subscription to share for share so exchanged in the common stock of the Atlantic Iron & Steel Company. One dollar per share will be called upon the common stock of the latter company. The companies taken over have, it is said, considerable amounts of cash in their respective treasuries.

(From Our Special Correspondent.)

The bullion and ore shipments from Salt Lake City, Utah, for the week ending October 28th, included 26 cars (or 966,009 lbs., lead-silver bullion; 5 cars, or 196,790 lbs. copper bullion. In the same week there were 35 cars, or 1,390,150 lbs. of ore and concentrate products shipped from the different camps to smelteries outside of the State for treatment.

MINING STOCKS.

Complete quotations will be found on pages 566, 567 and 568 of mining stocks listed and dealt in at:

Boston.	Spokane.	Mexico.
Colo. Springs.	Salt Lake.	Paris.
Denver.	San Francisco.	Rossland.
New York.	London.	Toronto.
Philadelphia.		

New York. Nov. 3.

There has been a little more activity in the better priced stocks, but business generally is quiet. In the coppers, Amalgamated attracted attention owing to various rumors. The curb brokers made the most of these reports, causing the stock to rise from $85⅝ to $88¾, but at the close on November 1st the price broke to $86¼. Anaconda continued low, sales being made at $43, but on Wednesday gained one point. British Columbia brought $9¾ on Monday and closes at $9½ bid and $10¼ asked. Tennessee remained at $15½@$17, while Union of North Carolina is held at $29 pending Dr. A. R. Ledoux's report on the property.

The American Smelting and Refining shares fluctuated fractionally; the common from $35@$36¾, and the preferred at $85@$87¼ on fair sales. Flemington Coal and Coke of West Virginia, after receding to $27¾ bid, recovered to $28¾, and on Wednesday there were sales of about 800 shares around $29. This was the closing bid without offers. Of New England Gas and Coke there was a sale of $5,000 in bonds at 77¾. A block of 500 shares of preferred Sloss-Sheffield was offered on curb, causing the stock to drop to $76 without buyers. The common shares were quoted at $39@$41, and subscriptions were stationary at $135@$140.

The Cripple Creek of Colorado were higher, owing to the enlarged production in October amounting to $2,003,600, against $1,476,607 in September. Isabella advanced to $1.30, a gain of 20c. since Monday, Acacia to 45c., Jack Pot to 59c., and Elkton Consolidated $1.15. Of the other Colorado stocks Iron Silver brought 58c. and Little Chief 18c.

Standard Consolidated of California sold at $2.90 before the 10c. dividend was declared, and later lost 5c. at $2.85. Kingston & Pembroke of Ontario is lower at 45c., while Ontario of Utah sold at $8.50, or 25c. less than the last transaction.

Auction sales were 100 shares Issaquah Coal Company, of Seattle, Wash., at 18%; 500 shares Standard Hand Rock Drill Company, $9 for lot; 1,000 shares Pneumatic Pulverizer Company, $4 for lot; 200 shares Seattle Coal and Iron Company, $5 for lot; 125 shares Seattle & Eastern Construction Company, $28 for lot; 500 shares Kansas City Humboldt Mining Company at $50; 1,000 shares Mt. Albert Gold Mining and Power Company, $60; 500 shares Iron Silver Mining Company, of Colorado, at $280 for lot; 5 preferred shares Joseph Ladue Gold Mining Company at $7 per share.

It is said that not only are the bridge concerns of Indiana refusing to join the Trust known as the American Bridge Company, but some of the leading Ohio concerns will have nothing to do with it. The King Company of Cleveland will stay out, and its managers say that instead of 90% of the companies being included, not more than 25% will sign the articles.

The Old Sterling Iron Company of Buffalo, N. Y., with a capitalization of $80,000, has been incorporated to manufacture pig iron and products of pig iron into iron and steel, and also to manufacture coke and to make furnace slag into bricks and cement. The directors are Mary J. and Faith D. Baird, V. J. Jamison, G. K. Prince and Frank B. Baird, all of Buffalo.

Boston. Nov. 1.

(From Our Special Correspondent.)

The sensation this week has been in Amalgamated and its allied stocks, which have all declined heavily and look still weak. Evidently they are not supported and the insiders or big holders seem disposed to let matters go. Of course there are all sorts of theories, the favorite one being that it is a "freeze-out game," the Standard Oil people wanting more stock at low prices. Another theory is that the Standard people have had enough copper, and want to get out of it at any price. Both are probably wrong; but any theory is accepted by people foolish enough to deal in blind-pool stocks.

Apart from these shares, the market has been weak and narrow. There are some spots in it which may make trouble later.

To-day, Calumet & Hecla was quoted $745 bid, with no sales. Other quotations were: Amalgamated Copper, $88 bid; Arcadian, $38; Butte, $65 bid; Tamarack, $215; Osceola, $86; Franklin $17; Montana, $323; Old Dominion, $29; Isle Royale, $36; Utah, $35 bid; Parrot, $45½; United States, $30; Santa Fe, $8½ bid; Copper Range, $35½; Centennial, $25½; Michigan, $8½ bid; Merced, $9 bid; Elm River, $6½ bid; Mass., $9½; Mohawk, $17½ bid; Gold Dredging, $20¾; Union, $4; Old Colony, $7; Trimountain, $9; Pioneer, $2½; White Knob, $12 bid; Wolverine, $40¾ bid; Adventure, $6⅜; Baltic, $23; Cochiti, $16½ bid.

There has been a better demand for the industrial, especially Federal Steel, in which trading was active. There were considerable dealings in Montana Coal and Coke around $9@$9½. Dominion Coal common brought $46; New England Gas and Coke, $24 bid.

The United Zinc and Lead Company, the Chitwood Mining Land Company, the Rinker Lead and Zinc Company of Aurora and the Leonard Land Company have consolidated and will do business as the United Zinc Company. They own 1,000 acres of land and have capitalized the company with $1,000,000 preferred stock and $5,000,000 common stock.

The zinc mine promoters are very active, and are, I am told, unloading their stocks pretty extensively. They are selling some in Boston, but the greater part in smaller New England cities. Thus Springfield, Worcester, Fitchburg, Northampton and others are taking much stock. Now the earlier of these companies had a good ground for existence, and were generally managed with some care; but I fear several fake projects are getting mixed in with these.

Your editorial on some of these zinc stocks last week attracted a good deal of attention here. Of course some objections were made, but most people seen expressed a wish that you would keep on.

Colorado Springs. Oct. 28.

(From Our Special Correspondent.)

Speculation in Cripple Creek shares is very active. Isabella is a center of interest. Announcement of a strike in the lower levels, it is thought, may come any time.

The following new Cripple Creek companies have been organized during the week: The Hemosa Gold Mining Company, owning ground on Squaw Mountain and Mineral Hill; the Silver Panic Gold Mining Company, with property in Grassy Gulch not far from the Victor Mine; the Maggie Gold Mining Company, which has recently acquired some property on Bull Hill near the Gold Sovereign; the Fauntleroy Gold Mining Company, with ground near the town of Anaconda on Gold Hill and also property on Mineral Hill and south of Victor; the Beacon Hill-Ajax Company, owning the Ajax claim on Beacon and Guyot Hills; the Dead Shot Gold Mining Company, owning the Dead Shot claim on Rosebud Hill near the Brodie Mill; the Grey Horse Gold Mining Company, with property on Bull Hill near the Pinnacle companies property; the Fulton-Maguerite Mining Company, with property on Raven, Gold and Carbonate Hills. All these companies have some good property and some have very fine prospects.

Salt Lake City. Oct. 28.

(From Our Special Correspondent.)

Conditions show no material change, and generally speaking prices hold fairly firm. Most professiionals aver that the tide has turned and a steady movement in Utah mining shares is about to occur. I find nothing to warrant such a forecast.

Ajax directorate and officers hold over another year. The shares show no movement. Chloride Point is sloppy and most inquiries are to sell. Daisy again displays more strength, and there is a better demand as quotations move up. Daly supplies a pleasing surprise, and the advance is not easy to account for. The shares close firmer at $2.05 to-day than at $1.42½ last Saturday; nothing new can be gleaned from the mines. Four Aces is once more going down, owing to threatened litigation with South Swansea. Geyser-Marion presents a better front than on last Saturday, though there is no longer a hint of soon resuming dividends.

Grand Central rules fairly steady. Its shouters claim first blood in the Mammoth litigation in Judge Higgins affirming the jurisdiction of the district court. Joe Bowers displays spasmodic spurts, but the shares refuse to climb. Seemingly Little Pittsburg is higher and stronger than a week ago, but it is doubtful if this is true in fact.

Lower Mammoth is in the midst of one of its erratic boomlets. The shares have doubled in price within 2 days and it is an open secret that another 5c. assessment is soon to be levied. Mammoth holds around $3.25, continuing in good favor. President-Manager McIntyre has again kept his promise by declaring a $40,000 dividend, payable on Wednesday next, for which the transfer books close to-day. Northern Light has moved up 5 points above last week's closing bid, on account of an alleged new showing of shipping ore. Sacramento has passed the regular dividend; the reasons assigned by the management are flimsy. Sunbeam is off a few points and the same is true of Swansea. South Swansea's break is accounted for by threatened trouble with Four Aces. It appears reasonably certain that the Sunshine option will not be taken up. Valeo has softened.

San Francisco. Oct. 28.

(From Our Special Correspondent.)

The week has been another without special interest beyond some working down of stocks by the clippers, who have had the market pretty much to themselves. The public stays quietly but persistently out of it, and all the pumping bulletins fail to arouse any interest. The cheap power contract is generally regarded only as a cover for the next crop of assessments.

The Oil Exchange shows a fair amount of trading. At present nearly all the stock dealts in are of companies which have prospects only; but it is claimed that arrangements are in progress to list the stocks of a number of producing companies.

The State Miners' Association had a very successful meeting this week. The members, however, took no interest in the Exchange. Many own mines which are worked, not merely speculated in.

The stockholders of the Merrimac Mining and Milling Company will act at a meeting to be held December 28th, upon a proposition to diminish the capital stock from $1,000,000 divided into 100,000 shares of the par value of $10 each, to $100,000, divided into 100,000 shares of $1 each.

Paris. Oct. 22.

(From Our Special Correspondent.)

The stock markets are somewhat more active and would be stronger than they are but for the disturbed condition of the money market and international exchanges. Loans are made a little more freely, but there is still some hesitation.

The copper stocks are still higher than last week, though the price of the metal is dropping a little. As to the copper market, there is a great deal of talk which has very little reason in it. For instance, certain parties claim that the diminished exports from the United States to Europe are not due at all to increased consumption on your side, but to the action of the American producers who hold back supplies in order to keep up quotations. Again, many assume that the Amalgamated Copper Company is a trust which includes all the American producers; and these will not be convinced of the real position of that company by those who understand the facts. It is useless to argue with these people, who will not see that their position is based upon misconceptions.

Of course, the main attention now is given to the war in South Africa, and our interests there. M. Paul Leroy-Beaulieu, who is nothing if not aggressive, is very anxious to see France intervene. In "L'Economiste Français" he publishes a statement claiming that the stocks of the Transvaal are held in the proportions of 8 in France, 6 in England and 4 in Germany. He asks why England should be permitted to act as if English interests alone were concerned. Possibly his figures are correct, though I think he has put the French holdings too high.

At any rate, they are large, and it seems unjust that the management of the mines should be entirely in English hands when a large part of the stock is held in France. But it is the fault of the French stockholders, who could have obtained representation in the directories of the companies in which they are interested if they had insisted on it. The Germans, whose interests are less than ours, have long had a prominent part in the management of several companies and are very much in evidence in the Transvaal. We would not take the pains to secure it, and we cannot now complain.

As to intervention, there will be none, however much some parties would like to see it.

The strike at the Creusot Works, in which some 10,000 men were involved, has been brought to an end by the arbitration of M. Waldeck Rosseau, President of the Council. His judgment on some minor points was in favor of the men, which permitted them to boast that they had gained the victory. The real question at issue, although kept in the background, was whether the management should be compelled to negotiate, in all disputed affairs, with the direction of the Workmen's Syndicate, although a great number of the men do not form part of that organization. On that point the arbitrator decided that the workmen had no more right to impose the intermediary of the syndicate than the master to refer disputes to a union of employers; also that unions of masters or workmen could only be called on to discuss contested questions when both parties agreed to accept those bodies as representatives.

It is quite generally expected that the ratification of the treaty of commerce between France and the United States will be strongly opposed. Although all American agricultural products are excluded from the treaty and remain subject to the maximum tariff, our protectionists object that while deductions of duty are conceded on about 300 articles from the United States, America only grants reductions on 160 numbers of goods named in the French tariff. The bill will be presented in the Chamber of Deputies next month and will then be referred to a special committee, in order that it may be voted before the end of the year. The committee can only accept it or reject it entire. In the latter case the course is to refer it back to the Government for modifications, but the committee cannot propose them.

Notwithstanding its near approach, the Exposition of 1900 attracts little attention yet. We have had so much else to occupy our thoughts.

Azote.

STOCK QUOTATIONS.

NEW YORK.

Name of Company	Location.	Par val.	Oct. 27. H.	Oct. 27. L.	Oct. 28. H.	Oct. 28. L.	Oct. 30. H.	Oct. 30. L.	Oct. 31. H.	Oct. 31. L.	Nov 1. H.	Nov 1. L.	Nov. 2. H.	Nov. 2. L.	Sales
Acacia	Colo	$1			.38		.36		.45						1,100
Adams	"	10	.10		.10		.10		.10						
Alamo	"	1	.10		.10		.09	09¼	.10		.11				7,300
Amalgamated C	Mont.	10	85.50	85.00	84 75	84.25	86.50	86.00	88.00	87.75	86.75	86.25	87.50	87.00	
Anaconda, c	Mont.	25	44 00	42 50	44.00	43.13	44.00	43.75	43.7	43.00	46.00	43 50	45.00		12,540
Anaconda Gold	Colo	5	.42		.42		.40		.42		4				113
AnchoriaLel	"	1	.78		.78		.78								
Argentum-Jun	Colo	2	.25		.24		.23		.25		.23				500
Belcher	Nev	3	.26		.29				.44		.31				
Best & Belcher	"	3	48		.45		.45		.44		.40				
Breece	Colo	25	1.55		1.50		1.60		1.60		1 66				
Brit.Col.Copper	B. C.	10	11 00	10.25	11.75	10.00	9.75	9 50	10.25	9.50	10.25	9.80	10 50	9.75	
Brunswick	Cal	1	.28		.90		.80		.25		.28				
Catalpa	Colo	10	.20		.20		.20		.2		.38				
Chollar	Nev	3	.27		.27		.22		.22		.20		.25		1,000
Comst'k T., st's		100	.08		.03¾		.03		.03		.03				
Con. Cal. & Va	"	2½	1 55		1.60		1.55		1.40		1 40				200
Cr & Cr. Creek	Colo	1	.10		.11		.10		.10		.11				1,000
Crescent	"	10	.15		.15		.15		.15		.15				
Cripple Cr. Con.	"	1	.29		.18		.19		.18¾		.16		.2	.19	4,000
Crown Point	Nev	3	.10		.10		.10		.1		.09				
Damon	Colo	11			.27						.28				1,000
Deadw'd Terra	S.Dak		.80		.70		.70		.7		.70				150
Elkton	Colo	1	1.175		1.17		1.15		1 18		1.185		1 21	1.19	2.0
Eureka	Nev	20	.25		.25		.25		.25		.23				
Father de Smet	Dak	100	.10		.10		.10		.10		.10				
Findley	Colo	1	.15		.14½		.15		.15		.14¾				
Garf-Con	"	1	.19		.19¼		19¼		.19¼		.2		.23	.21½	1,000
Gold Coin C.Ck	"	1	2 1		2.10		2.10		2.2		2.0				
Golden Fleece	"	1	.24		.24		.23		.23		.26		.29	.26	
Gould & Curry	Nev	3	.28		.28		.28		3		.25				
Hale&Norcross	Nev	3	.27		.28		.28		.28		.25				
Homestake	S.Dak	100	65.00		73 00				65.00		65.00				30
Horn Silver	Utah	25	1.20				1.30		1.2		1.30				785
Iron Silver	Colo	20	.57		.55		.55		.58		.53				100
Isabella	"	1	1.10		1 05		1.10		1 15		1.3	1.25	1.30		53.00
Jack Pot	"	1	.6		.6		.59	.58	.57		.51				1,700
Jefferson	"	1	.12		.12		.13		.12						
King & Pemb	Ont	10	.50	.45	.40		.45		.40		.35				700
Lacrosse	Colo	10	.26		.20		.20		.20		.2				1,000
Leadville Con	"	10	.09		.08		.09		.09		.09				
Little Chief	"	50	.20		.18		.18		.18		.17				400
Mexican	Nev	3	.20		.24		.20		.18		.18				
Mollie Gibson	Colo	5	.24		.26		.24		.23		.27		.27		1,000
Morencl Cop.pf	"	1	1.70		1.70		1.747		1.752		1.752		1.765	1 75	4.0
Mouiton	Mont	25	.3		.30		.3		.3		.30				
Mt. Rosa	Colo	1	.35		.3½		.35		.37		.37				
Occidental	Nev	3	.10		.13		.10		.10		.10				
Ontario	Utah	100	8.00		8 00		8.00		8.50		7.75				300
Ophir	Nev	3	.79		.70										200
Pinnacle	"		.32		.30		.35		.35		.33				7,200
Pharmacist	Colo	1	.08		.08	.07½	.08	.07¾	.07		.08½				2,000
Phoenix	Ariz	1	.13		.14		.16	.15	.15						1,000
Plymouth Con	Cal	10	.10		.10		.10		.10		.10				
Portland	Colo	1	2.3		2.35		2.30		2.3		2.30		2.45	2.40	
Potosi	Nev	3	.42		.33				.30						500
Quicksilver	Cal	100	1 5		1.50		1 50		1.50		1 75				
do. pref	"	100	7.00		7.00		7.00		7.00		7.00				
Savage	Nev	2½	.15		.15		.15		.12		.12				1,200
Sierra Nevada	"	3	.50				.50		.40		.49				
Small Hopes	Colo	20	1 00		1.00		1.00		1.0		1.00				
Specimen	"	1	.09		.09				.09		.09				
Standard Con	Cal	1	2.90		2.75		2.9		2.75		2.85				300
Syndicate	Colo	1	.03				.03								700
Tenn Copper	Tenn	25	17.00	15.50	17.0	15.50	17.00	15.5	17 00	15 5	16.50	15.50			
Union	Colo	1	.35		.35		.38	.34	.37	.36	.37		.4	.37½	
Union Con	Nev	2½	.28		.30		.30		.28		.26				
Utah Con	"	3	.07		.06		.07		.06		.06				
Work	Colo	1	.31		.33		.38	.30	.33	.30	.31		.34	.30	1,500
Yellow Jacket	Nev	3	.15		.25		.20		.11		.24				800
Zenobia	Colo	1			.2										800

COAL AND INDUSTRIAL STOCKS.

Am. Sm. & Ref.		$100	36	35¾	35¾	34¾	36	35	36¾	35	35¾	35¾			9,750
" " pf		100	86¾	85¾	86	85¾	86¾	85¾	86¾	85	87¾	86	86¼		6,045
Am.S &W Co n		100	50	47¾	48¼	47¾	48¾	47¾	49	47¾	50	47¾	47¾		63,895
" pfr n		100	94¾	93	94	93	94¾	93¾	94	93	94¾	93¾	94¼		6,881
Central of N. J.	N. J.	100	135		125	124¾	125¾	124	124¾	123¾	125¾	1.5	125¾		14, 6
Col. C. & I. Dev	Colo.	100									1¾				10
Col. Fuel & I.	Colo.	100	56¾	55	55¾	53¾	56¼	55	56¼	54	56	54¾	56¾		18,700
" pf		100									120¾				6
Col. & H.C.&I.	Ohio.	100	18¾				18¾						18¼		53
Del. & Hud	N. Y.	100	123¾	122¼	123		23¾	123	122¾	122¾	123	122¾	123¾		6,34
ederal Steel		100	5	53¾	54¾	53¾	55¾	54¾	59¾	54¾	6¾	58¼	59¾		61,9
" pf		100	79¼	76¾	78¾	78¼	79	78¼	80¾	78¾	81	79¾	81		20,19
tional Lead	N. Y.	100	29	2.9¾	28¾		29	28¾			28¾	28¼	29¼		1,45
" pf	Md	100					08¾		10¾		108				14
ati onal Salt		100	47¾	46	47¾	46	45¾	45	45¾	44	45	44	45	44	
" pf		100	78	75	78	75	78	75	75	75	78	75	78	75	
N. Y., Ont. & W.	N. Y.	100	26¼	25¼	26¼	25¾	26¼	26	26	25¾	26¼	25¾	26¾		17,31
Reading, 1st pf.	Pa	100	61	60¼	61¼	6 ¾	62¼	61¾	61¼	60¾	61¾	61	6 ¾		12,84
" 2d pf.	"	100	32¾	32¼	32¾	3.¼	33¾	32¾	33¾	32¾	33¾	33¼	33¾		13,70
Republic I & S.		100	2.¾	25	24¾	24¼	25¾	24¾	26¼	24¼	26¾	2.¼	26		7,48
" pf		100	70¾	7	69¾		71	70	70¾	70	70¾	70	70		3,61
Tenn.C.,L&R.R.	Ala.	100	1 9¾	117	118¾	17¾	119¼	117¾	118	116¾	119	116¼	118¾		9,99

PHILADELPHIA, PA.

Name of Company.	L'cation.	Par Val.	Oct 26. H.	Oct 26. L.	Oct. 27. H.	Oct. 27. L.	Oct. 28	Oct. 30. H.	Oct. 30. L.	Oct. 31. H.	Oct. 31. L.	Nov. 1. H.	Nov. 1. L.	Sales
Am. Alkali			3.50	3.38	3.50	3.38	3 38	3.50	3.38	3.50	3.38	3.50		1,570
" pf.										2.00	1.88			10
Bethlehem Irn	Pa.		61.00		61 00	60.25	6 .00	60.50				60.50		200
Bethlehem St'l	"	$50			20.75		24 00	23.88	20.50		20 50	20.00	21 50	20.00	637
Cambria Iron	"	50	44.50	44 38	44.38				44.50		44.50		44.50		436
Cambria Steel	I.T.	50	24.50	29.75	24.00	23.88			24.25	24.00	23.75	20 75	21.13	21.00	5,145
Choctaw. pref.	Pa.	50			45.00								45.00	44.0	11
Lehigh Val	"	50	27.13	26.88	26.88	26.75	27 00	26.75	27.50	26.88	27 00	6.63	27 00	26 7	6,626
Penna. R. R.	"	50	66 50	65.25	66.50		66.50	66 38	66.75	66.63	66.63	66.50	65 13		1,989
Susq I & S.	"		5 38		5.88	5.75	5.88	5 75	5.88		5.75	5.50	5.25		2,245
United Gas I.	"	50	164	163	163						163¾				168
Welsb. of Can	Can.	100	2 00		2.00										330
Welsb. Comi.	"	100													
Welsb Light.	"	100	50.00		49.50	49.25			50.0	49.50	49.50				601

Total shares sold, 20,160.

SALT LAKE CITY, UTAH.* Oct. 28.

Stocks.†	No. of shares	Par val.	Bid.	Asked.
Ajax	300,000	$10	$ 80	$1.20
Alice	400,000	25	.50	1.00
Anchor	150,000	10		
Buckeye	500,000	1		
Bullion-Beck & Ch.	100,000	10	3.40	3.70
Centennial Eureka	80,000	50		
Chloride Point	800,000	1	.24¼	.35
Daisy	500,000	3	.21¾	.22¾
Dalton	500,000	5		
Dalton & Lark	2,500,000	1	.03	.10
Daly	150,000	20	2.05	2.20
Daly West	150,000	20	12 30¾	12 38
Dexter	200,000	5	2.50	2.59
Eagle	150,000	1		.06
Eagle & Blue Bell	250,000	1	1 65	1 70
Emerald	300,000	1		
Four Aces	250,000	1	14¾	15
Galena	100,000	10	.33	.37½
Geyser-Marion	850,000	5	36¼	36¾
Grand Central	250,000	1	5 50	5.60
Homestake	400,000	$1	$0.06	$0 11
Horn Silver	400,000	25		
Joe Bowers	400,000	1	.17¼	.17¾
Little Pittsburg	400,000	5	.06¾	.07¼
Lower Mammoth	150,000	1	.63¼	.65
Mammoth	400,000	5	3 20	3.33
Mercur	200,000	25	6.81	7.00
Northern Light	400,000	5	.18¾	.19¼
Omaha	300,000	2	.15½	.19
Ontario	150,000	100	7.75	9 60
Richmond-An	500,000	1	20	
Sacramento	1,000,000	5	P2¾	.33¼
Silver King	150,000	20	50 62	52 25
Star Consolidat'd	500,000	1	.44¼	.48
Sunbeam	250,000	1	.6 ¾	.64¼
Sunshine	250,000	10	28	.33
Swansea	100,000	5	3 40	3.87
South Swansea	150,000	1	1.33¾	1 35
Utah	100,000	5	.30	1 19
Valeo	200,000	10	.67½	.82

*From Our Special Correspondent. † Utah companies. ‡ Mines in Vanderbilt, Cal. Mines in Tuscarora, Nev.

BOSTON, MASS.†

Name of Company.	Par val.	No. of shares.	Oct. 26. H.	Oct. 26. L.	Oct. 27. H.	Oct. 27. L.	Oct. 28. H.	Oct. 28. L.	Oct. 30. H.	Oct. 30. L.	Oct. 31. H.	Oct. 31. L.	Nov. 1. H.	Nov. 1. L.	Sales
Aetna, cons. g.	$25	100,000	4.50												50
Adven'n'e,Cons	25	100,000	5.88	75.25	6 00	5.25	6.00		6 25		6.25		6.38	5 50	1,298
Alloues	25	80,000	4 50	24.25									4.00		450
Am. Z., L. & S.	25	60,000			50.00	48.00									70
‡ Anaconda	25	1,200,000	45.00												113
Arcadian, c	25	150,000	37.50	36.50	37 0.	36.00	37 50	36.00	39.00	37.50	38 00	37 50	38 50	37.75	2,145
Arnold, c	25	60,000	8 50	8.00	9.00										100
Ashbed	25	40,000									1 00				100
Atlantic, c	25	40,000	25 00								25.00		26.00		63
Baltic, c	25	100,000	23 00	22.00	23 00	22.88					23 25	23.00	23.00		3,905
Bingham, c.&g.	10	190,000	14 63	13 75	14.7	14.50	4.25	14 00	14 88	14.50	14.50				1,495
Bonanza, g	10	200,000	1.25		1 25		1.25		1.88	1 25	1.50				730
Boston	2	2,0,000	6.00		6.0								6.00		625
Boston & C. C.	2	20,000			.40				40		.40				700
Bos.&Mon,Tr.R	25	150,000	340	335			8322	321	325	328	323		323¾	329	161
Breece	25	200,000													
British Col.		200,000													
Butte & Bost., c	10	200,000	69.00		70.00				70.00	69 88					416
Cal. & Hecla, c	25	100,000	745	740	745		745	740	745		750	745	755		167
Catalpa, s	25	300,000				35		40							1,250
Centennial, c	25	90,000	25 0	24.0	24 0		24 25	24.00	25.50	24 50	25 00	25 50	25 50		1,429
Central Oil	25	59,720	23 25	23 00	23 50	23.00	23.00	22.63	23.13	22.63	22.88		23 00		1,915
Cochiti, g	10	150,000	16 50	15.50	17.00	16.50			17 00	16.75	16.75	16.50	17.00	16 75	1,733
Copper Range	25	100,000	34.50		34 75	34.00			35 50		35.50		35.50		1,165
Crescent, s	25	300,000													
Dominion Coal	100	150,000	44.00	43.25	44.00		44.00				46 75	44.50	47.50	47.00	820
do. pref.	100	20,000													
Federal Steel	100	464,843	55 63	54.38	54 75	53.13	54.50	54 00	55.63	54 75	59 25	54.88	60.13	58.50	16,285
do. pref		532,610	79.50	79 00	79 25		78.25		81.00	78.50	81.00	78.50	81.25	80 0.	1,415
Franklin, c	25	100,000	15 50	14 50	5.38	15.25	15.50	15.18	16 63	15.75	17.00	16.75	17.00	16.88	1,476
Gold Coin, g	5	200,000													
Humboldt, c	25	40,000									1 50				50
I. Royal Con. c	25	100,000	39.00	35.00	38 00				38.00	37.50	37 0		38.00		785
Mass., Con	25	100,000	5.25	9.00	9.00				9.63	9.25			9.50	9.00	455
Mayflower	25	100,000	3.50				3 75		4.00						700
Melones	25	167,577			2.25	1.88	1.88		2.0	1.88					1,800
Merced, g	5	100,000													
Michigan	25	100,000	9.00		9 00		9.00		10.00	9 00					830
Mohawk, c	25	100,000	18.25	18.00	17.50	17 25			18.00	17 88	17.50		18.00	17.50	415
Napa	7	100,000									11 00				100
New Idria	5	100,000	12.50						12.75	12.50					310
N.A.Gold Dre'g	10	100,000			21.50		22.25		22 50	21.75	21 00		21.00	20.00	1,520
Old Colony, c	25	100,000	7.00	6.75	7.00		7.50		7.80	7.25	7.80	7.00			1,096
Old Dominion,c	25	150,000	27 00	26.00	27 50	26.00	27.50	27.25	29.88	28.75	29 25	29.00	30.00	29.00	1,857
Osceola, c	25	93,000	81 00	81.5	83 13	80.50	83.00		84 00	83.00	85.00	83.00	86 00	85.00	1,196
Parrot, s c	10	229,850	43.50	42.0	44.0	43.00	44.00	43.50	45.75	45.00	45.50	44 75	45 50	45.00	2,926
Pioneer, g	10	100,000	.2 75										2 25		450
Quincy, c	25	100,000			154	153	156		155		158		155		18
Rhode Island	25	100,000	5.50	5 25	5 50				6.00	5 75			5 50		405
Santa Fe, g, & c	10	250,000	9.00	8.75	9 25	9.00	9 13	9.00	9 8	9 00	9 00	8.75	9.25	9.00	5,660
San. Ysabel, g	5	130,000			12 00						11 00		11.00	9.88	1,115
Tamarack, c	25	60,000	215	213	214	211	211	210¾	214¼	214	214¾		2.5	2 14	139
Tecumseh, c	25	90,000					4.0		4.75						150
Tri Mountain	25	100,000	8 25		8.50	8.00	8.50	8.25	9.25	9.00	8.75		9.00		1,066
Union C. L		80,000			4.00				4.00		4.00	3.75	4.00		370
United States	25	250,000	30.00	28.75	30 25	29.88	29 75	43.00	30.63	29.88	30.00	29.63	30.00	29.88	6,585
U. S. Oil	25	100,000	44.00	43 50	43.00	42.00	44.25		44 50	43 0.	43.00	42 75			2,060
Utah Cons,g &c	5	300,000	36 0	34.88	35.75	35.50			36 50	35.00			35 25		1,954
Victoria	25	100,000	4 50	4.00					5 00	4.00	4.00				585
Washington	25	40,000	1.88		1.88	1.75			2.13		1.75		2.00		365
White Knob	100	50,000			14.00										150
Winona, c	25	100,000			7 0	6.00			6.75	6.50	6.75		7 25	6.75	1,210
Wolverine, c	25	60,000	39.5	39.00	39.50	39.13	39 50	39.38	41.00	39.50	4 .88	40.0.	41.00	41.75	1,090
Wyandotte	25	100,00	2.50						2.50		3.00	2.75	3.00		335

Official quotations Boston Stock Exchange. Total sales, 75,061. §Ex-dividend.

COLORADO SPRINGS, COLO.‡

Name of Company.	Par val	Oct. 23. B.	Oct. 23. A.	Oct. 24. B.	Oct. 24. A.	Oct. 25. B.	Oct. 25. A.	Oct. 26. B.	Oct. 26. A.	Oct. 30. B.	Oct. 30. A.	Oct. 31. B.	Oct. 31. A.	Sales
Alamo	$1	.10	.10¾	.10	.10¼	.10¾	.10¼			.10¼	.10¼	.10¾	.10¾	14,500
Anaconda	1		.45	.44	.45		.45		.45	.44	.44¾	.43	.43¾	9,700
Arg'ntumJ	1	.25¾	.26	.26	.26¼	.25¼			.26¼					5,100
Cadillac	1				.02¾		.02¾							1,000
C. C. Con	1	.19¾	.19¾	.18¼	.18¾	.18¾	.18¾	.18¾	.18¾	.19¼	.18¾	.18	.18¼	68,667
Dante	1	.21¼	.21¾	.21¾	.21¾	.21	.21¾	.21	.21¾					29,000
ElktonCon	1	1.15¾	1.17	1 15	1.18¼	1.15	1 16	1.17¼	1.18	1.18	1.19	1.18¾	1.19	11,500
El Paso G.	1	.39¾						.39¼						1,000
Favorite	1			.03¾	.0¼	.05	.05¼	.05		.03¾				23,000
Findley	1	.16	.16¾	.16¼	.16	16	.16¼	.15¼	.15¾	.15¾	.16	.15¼	.16	21, 00
Golden Fi	1	.28	.30	.26¼	.26	.27¼	.28	.28	.26	.30	.26	.30	.26	4,000
Gold Hill	1	.03¼	.03¼	.02¾	.03¼	.03	.03¼	.03¼		.03¾				14,000
Ing. Con	1	.10¾	.10¼			.10¼	.10¾	11	.11¼					14,000
Isabella	1	1.01¾	1.02¼	1.07¾	1.05	1.04	1 05	1 05¼	1.05¾	1 15	1 15¼	1.23¼	1 24	53,700
Jack Pot	1	.60¾	.61	.61	.62	.60¼	.61¾	.59	.60	59¾	.60	.61	.62¼	29,600
Lexington	1	.25¾	.26¼	.25¼	.26	.26¾	.27	.26¾	.26¾					58,000
Magnet R	1	.05¾	.06¼	.05¾	.06¼	.05¾	.06¼	.05¾	.06¼	.05¾				7,000
Maloa	1		.33¼	.34			.32¼		.34	.34¼	.33¾	.34		4,400
Midway	1	.07	.07¼		.07¼	.07¼	.07¾	.07¼	.07¾					6,000
Mobile	1			.04¾	.04¾	.04¾	.04¾	.04¾	.04¾					
Mollie Gib.	1		.28		.26¼	.30	.26	.28	.25	.27	.25	.27		
Montreal	1		.14		.12¾	.12¾	.13¼	.11						24,50
Moon-A'c'r	1	.65	.67½	.68	.69	.71	.71½		.76	.77	.76	.77¼		7,700
Mt. Rosa	1	.40		.39¼	.41	.41¼	.42	.42	.45	.39¾	.41	.41¾	.45	6,6.0
New Haven	1	.03¼	.04	.04	.04¼	.04	.04¼							6,500
Oriole	1	.06¾	.06¾	.05¾	.06¼	.07	.06¾	.06¾						24,800
Pilgrim C.	1	.08¾		.08¼	.09	.08¼	.08¾	.08¾						8,000
Pinnacle	1	.33	.33¾	.36¼	.37¼	.36	.36¼	.33¼	.33¾	.34¾	.34¼	.33¼	.36	88,800
Portland	1	2.40	2.45	2.40	2.45		2.41	2.38	2.40	2.40	2.45	2 43	2.45	2,900
Prince Alb.	1	.06	.06¼	.06¾	.06¼	.06¼	.06¾	.05¾	.06¼					103,200
Princess	1	.05¾	.06	.06¼	.06	.06¼	.06	.05	.06¼					35,000
Pythias	1		.07¾	.07¼	.07¼	.07¾	.07¾	.07¾	.07¾					23,000
Specimen	1	.13¾	.13¾		.13¼		.13¼		.13¼					24,000
Tornado	1	.46¾	.47	.46¾	.47		46¼		.47	.48¾	50	.49¼	50	12,500
Trachyte	1	.08	.08¾	.08¾			.08¾	.08¾	.08¾					15,000
Union	1	.35¾	.36	.37¼	.38		.37¼	.38	.36¾	.37	.37¼	.37¾	.37¾	121,300
Uncle Sam	1		.06¾	.05¾	.06¼		.06¾	.06	.06¼					11,000
Vindicator	1									1 50				
Work	1	.32¾	.33¼	.32¾	.33	.33¼	.33¼			.33	.33¼	.33¾	.33¼	21,000

‡ Colorado Springs Mining Stock Exchange. Sales for four days ending Oct. 26th, 939,971 shares; quotations for Oct. 3.th and 31st by telegraph.

SPOKANE, WASH.* Oct. 27.

Name of Company.	Par val.	Prices. H.	Prices. L.	Sales.
Admiral Dewey	$1			
Anaconda	1			
Athabasca	1			
Ben Hur	1			
Black Tail	1	.15	13	2,00
Buffalo Hump	1			
Buffalo L. Tender	1			
Caribou (Camp McK)	1			
Cheapa Blue Jay		02	.01	17,000
Conjecture				
Crystal		.05¾	.03¾	7,0 0
Dardanelles	1			
Deer Trail No. 2	1	.23	.20	7,0 0
Evening Star	1	.10	07¾	5,000
Gold Ledge				
Golden Harvest	1	.08¾	.03	47,0.
Good Luck Con				
Hit or Miss	0 05			
Insurgent	0 10	.03¼	.02¾	2,000
Jim Blaine	1	.33¼	.33	43,5 0
Knob Hill				
Lone Pine-Surp. Con	1	.25¾	.20	16,500
Mabel				
Mark Tapley	0.05			
Miller Creek	1			
Morning Glory	1	.11	.10¾	
Morrison				
Mountain Lion	1	1 15	1.05	12,000
Noble Five	$1			
North San Poil				
Novelty	1			
Old Ironsides	1			
Palo Alto	1			
Pearl	1			
Princess Maude	0.10	.10¾	.09¾	7,000
Quilp	15			
Rambler Cariboo	0.25	.6	57¾	4,000
Rebate	0.10			
Republic (Con)	1			
Res M & M		.18¾	.17¾

STOCK QUOTATIONS.

DENVER, COLO.‡

Name of Company.	Par val.	Oct. 23 B.	Oct. 23 A.	Oct. 24 B.	Oct. 24 A.	Oct. 25. B.	Oct. 25. A.	Oct. 26. B.	Oct. 26. A.	Oct. 27. B.	Oct. 27. A.	Oct. 28. B.	Oct. 28. A.	Sales.
Mines:														
Anac'da G.	$5	.....	.....	.44¼	.45	.....	.47	.....	.46	.48¾	.....	.42½	.....	.....
Arg. J.	1	.....	.....	.25½	.26	.26½	.27	.....	.....	.....	.....	.26	.....	.....
Bankers	1	.....	.....	.14	.....	.14¾	.....	.....	.17¼	.16	.....	.15¾	.15¾	2,000
CrippleC.C.	1	..	.20	.....	.....	.....	.....	.....	19¼	.18¾	.19	.19¼	.19¾	.....
Della S.	1	.....	.05¾	.....	.....	.....	.....	.....	.....	.....	.02¾	.02	.....	.....
Elkton Con	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.15	1.17	.....
Findley	1	.....	.16¾	.15½	.....	.15½	.16¾	.....	.....	.....	.....	.....	.....	.....
Garf. Con.	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gold Coin.	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Goldstone.	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.02¾	.....	.02¾	.03	.....
Indepnd'nce	1	.....	.....	.....	.....	.....	.....	.....	.....	.45	.47	.46¾	48	.....
Ironclad	1	.....	.....	.....	.....	.06¾	.06¾	.....	.07¾	.....	.16	.....	.....	.....
Isabella	1	.....	.....	.....	.....	.....	.....	.....	.....	1.06½	1.07	1.05	1.07	1,0 0
Jack Pot	1	.....	.61	.....	.....	.....	.66	.....	.61	.....	.60	.....	.56	.....
Jefferson	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Keystone	1	.....	.....	.12¾	.13	.12	.13	.....	.....	.....	.....	.....	.....	.....
LosAngeles	1	.....	.....	.09¾	.09¾	.09½	.09¾	.10¼	.10¼	.10¼	.10½	.10¾	.10¾	4,0 0
Mollie Gib.	5	.....	.....	.30	.....	.30	.....	2.85	.....	.29½	.....	.29	.....	.....
NewZealnd	1	.20	.20¼	.....	.21½	.21	.....	.21	.22½	.....	.....	.....	.....	.....
Ophir	1	.....	.....	.53	.55	.....	.....	.55	.....	.56	.....	.60	.....	150
Pharmacist	5	.....	.....	.07¾	.....	.....	.08	.08¼	.07½	.....	.....	.....	.08	.....
Portland	1	.....	.....	2.40	2.43	.....	.....	2.39	.....	2.35	.....	2.37	.....	.....
Specimen	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Union Gold	1	.....	.01¾	.01¾	.02	.....	.....	.....	.....	.38¼	.....	.38¾	.....	7,4(0
Vindicator	1	.....	.....	.....	.....	1.46	1.55	.....	.....	.....	.....	.....	.....	.....
Work	1	.32¼	.34½	.33	.....	.33½	.34	34	.....	.....	.....	.32½	.....	8,000
Prosp'cts:														
C C Imp	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Illinois	1	.....	.....	.....	.....	.01¾	.01¾	.01	.01¾	.01	.01¾	.01¾	.01¾	22,(00
Old Gold	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puritan	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.01¾	.02	.02¼	.02¾	102,000
Miscell.‡														
Acacia	1	.....	.84	.....	.....	34	34½	.34	.34	.....	.35¼	.36¾	.....	3,000
Alamo	1	.10¼	.....	.10¼	.....	.10	.10¾	.10¼	.....	.09¾	.....	.10¼	.....	.....
Aola	1	.....	.....	.04¾	.05¼	.04¾	.05	5	.....	.....	.....	.05	.05¾	1,500
Battle Mt.	1	.....	.....	.....	.40	.....	.....	.39	.41	.39	.....	.....	.42¾	.....
Bob Lee	1	.....	.85¾	.06¼	.07¾	.....	.07	.....	.....	.....	.....	.....	.....	9,000
C. C. & M.	1	.18¼	24	.23	.....	.....	.....	.....	.23¾	.....	.....	.21	.....	.....
De Beers	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Des Moines	1	.04¾	.05¼	.05¾	.05¼	.05¼	.05¾	.05¾	.05¼	.....	.....	.....	.....	1,000
Favorite	1	.....	.....	.05	.05¾	.05	.05¾	05	.....	.05	.....	.05¾	.05¾	6,000
G'ld'n Eagle	1	.....	.....	.51½	.....	.....	.....	54	.63	.....	.....	.....	.....	.....
Golostone	1	.....	.....	.02½	.....	.03¼	.....	.....	.02¾	.....	.....	.02¾	.03	1,0 0
Gr'nite Hill	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Magnet R.	1	.....	.....	.08½	.....	.....	.....	.08¾	.04	.....	.....	.05¾	.....	.....
Mobile	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mt. Beauty	1	.....	.....	.01¾	.....	.....	.03	.04¼	.04¾	.04	.04¾	.....	.....	3,000
Trachyte	1	.....	.....	.....	.....	.02¾	.02¾	.....	.....	.03¼	.....	.....	.....	.....

‡ Official Quotations Denver Stock Exchange. Total sales, 168,950 shares.

SAN FRANCISCO, CAL.

Name of Company.	Location.	Par. value.	Oct. 26	Oct. 27	Oct. 28.	Oct. 30	Oct. 31.	Nov. 1.
Alpha Con.	Nev.	1.00	.04	.03	.03	.02	.05	.03
Alta	"	2.00	.04	.03	.03	.02	.02	.02
Andes	"	3.00	07	.08	.08	.07	.07	.07
Belcher	"	3.00	29	.31	32	.28	.27	.28
Best & Belcher	"	3.00	30	.30	.30	.46	.45	.43
Bullion	"	1.00	.07	07	.07	.07	.06	06
Caledonia	"	3.00	.50	55	.54	.50	.46	.46
Challenge Con.	"	3.00	.21	.22	.24	.21	.20	.19
Chollar	"	3.00	.29	.29	.28	.25	.25	.22
Confidence	"	3.00	.65	.69	.70	.70	.67	.66
Con. California & Virginia	"	2.50	1.65	1.65	1.65	1.50	1.50	1.45
Cons. Imperial	"	1.00	.01	01	.01	.01	01	.01
Crown Point	"	3.00	.12	13	13	.11	.11	.10
Gould & Curry	"	3.00	31	31	.31	.30	.29	.29
Hale & Norcross	"	3.00	.30	31	.31	.30	.30	.32
Julia Con.	"	1.00	02	02	.02	.01	02	.02
Justice	"	2.00	.03	03	.02	.03	.03	.03
Kentuck Con.	"	1.00	.03	.04	.02	.04	.02	.03
Mexican	"	3.00	.22	.24	.24	.20	.19	.9
Occidental Con.	"	3.00	.14	14	.14	.14	.12	.12
Ophir	"	3.00	.74	.76	74	68	.65	.62
Overman	"	2.00	.14	.15	.15	.12	.12	.12
Potosi	"	3.00	.38	36	.37	32	.32	.32
Savage	"	2.50	18	18	18	.17	15	.16
Seg. Belcher & M.	"	2.00	.02	.01	.01	.01	.03	05
Sierra Nevada	"	3.00	.53	53	52	.45	.43	.40
Standard	Cal.	10.00	2 95	2.85	2.80	2.75	2.80	2.80
Union Con.	Nev.	2.50	.32	35	.33	.30	.29	.28
Utah Con.	"	1.00	.09	.09	.09	.08	.08	.07
Yellow Jacket	"	3.00	.20	.23	.22	.2	.20	.19

Official telegraphic quotations of San Francisco Stock Exchange.

TORONTO, ONT.*

Name of Company.	Par val.	Oct. 24. B.	Oct. 24. A.	Oct. 25. B.	Oct. 25. A.	Oct. 26. B.	Oct. 26. A.	Oct. 27 B.	Oct. 27. A.	Oct. 28. B.	Oct. 28. A.	Oct. 30. B.	Oct. 30. A	Sale
Ontario:														
Alice A.	$1	.09	.12	.08	.13¾	.09	.12	.09	.13	.09	.12	06¾	.13	
Empress	1	0.3¼	.04¼	0.3¼	.04	02¾	04¼	.03¾	.04¾	.03¾	.05	02¾	.04	8 5 0
Golden Star	1	28¼	30	.28¾	.31	.28¼	.31¼	30½	34	.34	.35	30	34	17,90
Ham Reef	1	.20	26	20	.28	.22	28	.20	.28	.22	.28	.22	.28	2,0 0
British Col.:														
Athabaska	1	.35	.39	.35	.4)	.35	40	35	.40	.35	.39	.34	.40	3,(0)
Big Three	1	12	13¼	12¼	.15	.12	.15½	12	.15	.12	.15	.10	.15	4,5 0
Br'd'n&G.C.	1	.28	.31	.27	.29¼	.27	.31	.28	.31	.27½	31	.27	.31	2,5 0
Dardanelles	1	.09¼	. 2	09¾	.12	.10	.12	.10	.13	.11	13	.10	.13	500
Deer T'l No 2	1	.19¼	.2 ½	.19	.20½	19¼	.22½	.20	.23	.20	.23¼	.20½	.23	5,500
Dundee	1	.20	.23	.19½	.22	16	.21	.15	18½	.14	.17½	.14	.18	3,000
Even'g Star	1	.08	09	07¾	.09	07¾	09	.07¾	.10	07	.10	.08¼	.1 ¾	17,20
Fairvi wCp	0 25	05	.06¼	.0 ¾	.06¾	.0 ¼	07	.05¼	.06½	.05¼	06¼	.05¼	.06¾	49,(00
Iron Mask	1	.60	75	.70	.73	.70	.75	70	75	.69	.71	.65	.75	1,0(0
Minnehaha	1	.10	16¾	.13	.16	.12	.16	.11¾	.16	12	.16	.10	.16	
Monte Crist	1	.09¾	.06	.08¾	04¾	.03¼	.06	.03¾	.06	.03¾	.05	.03¼	06	3,(0
Morrison	1	.11	.14½	.1	.16	.11	.15¾	10	.15	.11½	.15	.10	16	7,0 0
Noble Five	1	.18	25	.20	.25	.18	.28	.18	.23	.2(	.24	.21	25	500
N'rt'n Belle	1	.01¾	.03	.01¾	.03	.01¾	.03	.01¾	.03	.01¾	.03	.01¾	.02¾	800
Novelty	1	.02¾	.03¼	.02¾	.03¾	.02¾	.03¾	.02¾	.04	.03¼	.04	.02¼	.03¼	
Prin.Maude	1	.07¾	.10¾	.08	.11	.07½	.10¾	.07½	.11	.07½	.10¾	.08	.10¾	
Rambler	1	.54	.58	.55	.61	.53	60	.58	.63	.57	.59	.56	.61	1,500
Rathmullen	1	.07	.08	.06¾	.08¼	07	.06¾	.07	.08¼	.07	.08	.07¼	.08¼	20,500
Republic	1	1.20	1.26	1 20	1.25	1 20	1.25	1.19	1.24½	1.19	1 24	1.18	1.24¾	8,100
Van Anda	1	05¼	09	.08	.19	.08	.9	.07	.08½	.07¾	.08¾	.07¾	.08¾	73,5 0
Victory Tri.	1	.04½	.05¼	.04½	.0 ¼	.03¾	.06	.03¼	06	.04	.06¼	04	.05¼	2,0 0
Virginia	1	05¾	.10	.07¾	10	08	10	.08	.10	.08	10	.07¾	10	2,500
Waterloo	0 10	.12	.14	.12¾	.13¾	12¾	13½	.13¾	14¼	12¾	14	.12¾	13¾	04,*0
White Bear	1	.03½	04¼	.03½	04	.03½	04	.03½	.04	.03¾	.04¼	.03½	04	13,600
Winnipeg	1	83¾	.82¾	.80	.82¾	.80	.82	.80¾	.82	80	.81¾	80	.83	19,500
Develop Co														
R.C.G. F'lds	1	.03¾	.04¾	.03¾	.04¼	.03	.04¼	03	04¼	.03	.04¼	.03	03¾	6,000
Can. G. F. S	0 10	.03¾	08	.0	.07	.6	.07	.05¾	.07	08	.7	.05¾	08	9,000
Gold Hills	1	.05	.06¼	05	.06¾	.05	.06¾	.05	.06¼	05	.07	.05¾	.06¼	

*Official quotations of the Standard and Toronto Mining and Industrial Exchanges. Total shares sold, 314,300.

LONDON.

Oct. 20.

Name of Company.	Country.	Authorised capital.	Par value.	Last dividend. Amt.	Last dividend. Date.	Quotations. Buyers	Quotations. Sellers
				£ s. d.		£ s. d.	£ s. d.
Alaska Goldfields	Alaska	£300,000	£1	0 0	Mar., 1899	1 0 0	1 2 6
Alaska-Mexican, g	"	200,000	1	0 0	Oct., 1899	17 6	1 2 6
Alaska-Treadwell, g	"	1,000,000	5	0 0	Oct., "	5 0 0	5 5 0
Anaconda, c., s	Montana	6,000,000	5	0 0	Nov., 1899	9 17 6	10 0 0
Chiapas, g., s., c	Mexico	252,500	1	0 0	.....	.....	5 0 0
Con. Gold Fields	"	300,000	1	0 0	.....	15 0	1 0 0
De Lamar, g., s	Idaho	400,000	1	0 0	6 May, 1899	4 0	5 0
Elkhorn Priority (New), s	Colorado	87,500	1	0 0	1 0 June, 1898	1 3	3 9
Golden Gate, g	California	80,000	1	0 0	.....	1 0	3 0
Grand Central, g., s	Mexico	300,000	1	0 0	2 0 Aug., 1899	1 1 3	1 3 9
Hall Mines, c., s	British Col.	250,000	1	0 0	1 0 May, 1898	9 0	11 3
Le Roi, g	"	1,000,000	5	0 0	5 0 Nov., 1899	6 7 6	6 12 6
*Lillie, g	Colorado	250,000	1	0 0	2½ Nov., 1899	15 0	1 0 0
Montana, g., s	Montana	660,000	1	0 0	6 Apr., 1899	3 0	3 6
Mountain Copper	California	1,250,000	5	0 0	9 0 Sept., 1899	7 10 0	8 0 0
Newfoundland, c	Newfoundland	250,000	1	0 0	.....	5 0	7 6
Palmarejo & Mexican, g., s	Mexico	800,000	1	0 0	.....	2 0	3 0
Plumas Eureka, g	California	251,250	2	0 0	0 5 Oct., 1896	3 9	3 9
Richmond, g., s., l	Nevada	270,000	5	0 0	1 0 Dec., "	5 0	6 3
Sierra Buttes, g	California	245,000	2	0 0	0 6 Apr., "	2 6	3 9
*Stratton's Independence	Colorado	1,100,000	1	0 0	2 0 Sept., 1899	2 10 0	2 15 0
Colomb. Hydraulic, g	Colombia	75,000	1	0 0	6 Jan., 1899	3 9	6 3
Coplapo, c	Chile	200,000	2	0 0	6 0 July, 1899	3 12 6	3 17 6
Frontino & Bolivia, g	Colombia	140,000	1	0 0	1 6 Oct., 1899	2 3 9	2 6 3
St. John del Rey, g	Brazil	600,000	1	0 0	1 3 June, 1899	1 9 6	1 10 6
Tolima A., s., g	Colombia	70,000	5	0 0	5 0 July, 1897	2 10 0	3 0 0
Tolima B., s., g	"	30,000	5	0 0	5 0 " "	1 10 0	2 0 0
UtahCon., g(HighI'ndBoy)	Utah	300,000	1	0 0	rts. Mar., 1898	7 15 0	8 0 0
Velvet, g	BritishCol'mbia	100,000	1	0 0	.....	1 3 9	1 6 3
Ymir, g	"	200,000	1	0 0	1 0 Oct., 1899	1 3 9	1 6 3
British Am. Corp.	"	1,500,000	1	0 0	rts. Dec., 1898	1 0 6	1 1 6
Linares, l	Spain	45,000	3	0 0	12 6 Oct., 1899	7 10 0	8 10 0
Mason & Barry, c., sul	Portugal	630,000	2	0 0	5 0 May, 1899	3 15 0	4 0 0
Rio Tinto, c	Spain	1,625,000	5	0 0	1 15 Nov., 1899	48 2 6	48 7 6
" pref	"	1,625,000	5	0 0	2 6 " 1899	5 18 9	6 1 3
Tharsis, c	"	1,250,000	2	0 0	11 0 May, 1899	8 5 0	8 15 0
Libiola, c	Italy	252,000	5	0 0	1 6 Sept., 1899	1 12 6	1 17 6
Assoc. Gold Mines	W. Australia	500,000	1	0 0	4 0 Oct., 1899	12 15 0	13 5 0
Broken Hill Prop., s	N.S.Wales	384,000		8 0	1 0 Oct., 1899	2 2 6	2 3 6
Great Boulder, Prop.	W. Australia	1,750,000		2 0	6 Sept., 1899	1 18 0	1 19 0
Hannan's Brownhill, g	"	110,000	1	0 0	7 6 Nov., 1899	12 2 6	12 7 6
Ivanhoe Gold Corp	"	1,000,000	5	0 0	5 0 Oct., 1899	16 17 6	17 2 6
Kalgurlie, g	"	120,000	1	0 0	rts. Feb., 1899	9 10 0	11 0 0
Lake View Consols, g	"	250,000	1	0 0	£1 Nov., 1899	21 2 6	21 7 6
Mt. Lyell M. & R., l., c	Tasmania	975,000	3	0 0	4 0 Oct., 1899	10 17 6	11 2 6
Mt Morgan, g	Queensland	1,000,000	1	0 0	6 Oct., 1899	5 2 6	5 5 0
Waihi, g	New Zealand	330,000	1	0 0	2 0 Oct., 1899	8 16 3	8 18 9
West Aust. Jt. Stk. L. & F	W. Australia	1,000,000	1	0 0	1 0 Dec., 1898	3 0	3 6
Champion Reef, g	Colar Fields	220,000		10 0	4 0 Sept., 1899	5 2 6	5 5 0
Mysore Gold, g	"	250,000		10 0	4 6 Nov., 1899	5 11 3	5 13 9
Nundydroog, g	"	242,000	1	0 0	2 0 " 1899	2 16 3	3 1 3
Ooregum, g	"	145,000	1	0 0	6 Aug., 1899	3 10 0	3 12 6
" pref. g	"	120,000	1	0 0	2 6 " 1899	4 8 9	4 11 3
Angelo, g	Transvaal	275,000	1	0 0	5 0 Mar., 1899	6 17 6	7 2 6
Bonanza, g	"	300,000	1	0 0	11 0 June, 1898	4 2 6	4 7 6
British S. Af., chartered	So. Africa	5,000,000	1	0 0	rts May, 1899	3 0 0	3 2 6
Cape Copper, c	"	600,000	1	0 0	5 0 July, 1899	4 15 0	4 17 6
" pref	"	150,000	2	0 0	5 0 " 1899	4 15 0	5 0 0
City & Suburban (New), g	Transvaal	1,380,000	4	0 0	8 0 Aug., 1899	5 2 6	5 7 6
Con Deep Level, g	"	300,000	1	0 0	x all June, 1898	1 10 0	1 15 0
Crown Reef, g	"	120,000	1	0 0	18 0 Nov., 1899	13 10 0	14 0 0
De Beers Con., d	Cape Colony	3,950,000	5	0 0	£1 June, 1899	26 2 6	26 7 6
Durban Roodepoort, g	Transvaal	135,000	1	0 0	5 Oct., 1899	5 2 6	5 7 6
Ferreira, g	"	90,000	1	0 0	30 0 Aug., 1899	20 10 0	21 10 0
Geldenhuis Deep, g	"	850,000	1	0 0	8 0 Aug., 1899	9 2 6	9 7 6
Geldenhuis Est., g	"	200,000	1	0 0	10 0 Aug., 1899	6 5 0	6 10 0
Ginsberg, g	"	160,000	1	0 0	5 0 Aug., 1899	3 0 0	3 2 6
Henry Nourse, g	"	125,000	1	0 0	10 0 Aug., 1899	5 15 0	6 0 0
Heriot (New), g	"	115,000	1	0 0	5 0 Sept., 1899	6 5 0	6 10 0
Jagersfontein, d	Orange Fr. St.	1,000,000	5	0 0	9 0 June, 1899	13 5 0	13 15 0
Johannesburg Con. Invst	So. Africa	2,750,000	1	0 0	2 0 Aug., 1897	1 13 9	1 16 3
Jubilee, g	Transvaal	50,000	1	0 0	5 0 Aug., 1899	5 10 0	5 15 0
Jumpers, g	"	100,000	1	0 0	1 0 Nov., 1899	4 17 6	5 2 6
Klein fontein, g	"	275,000	1	0 0	2 0 Mar., 1899	2 10 0	2 12 6
Langlaagte Estate, g	"	500,000	1	0 0	3 0 Sept., 1899	3 7 6	3 12 6
May Con., g	"	275,000	1	0 0	6 0 Aug., 1899	4 2 6	4 7 6
Meyer & Charlton, g	"	85,000	1	0 0	8 0 July, 1899	5 5 0	5 10 0
Namaqua, c	Cape Colony	200,000	1	0 0	6 6 June, 1899	4 8 9	4 11 3
Primrose (New), g	Transvaal	300,000	1	0 0	6 0 Aug., 1899	4 2 6	4 7 6
Rand Mines, g	So. Africa	490,000	1	0 0	15 0 Aug., 1899	37 5 0	37 10 0
Robinson, g	Transvaal	2,750,000	5	0 0	8 0 Aug., 1899	9 0 0	9 5 0
Sheba, g	"	1,100,000	1	0 0	0 6 July, 1898	1 0 0	1 2 6
Sim. & Jack Prop., g	"	5,000,000	5	0 0	4 0 July, 1899	5 12 6	5 17 6
Wemmer, g	"	80,000	1	0 0	18 0 June, 1899	11 15 0	12 5 0
Wolhuter, g	"	860,000	4	0 0	2 0 Feb., 1899	4 10 0	4 15 0
Worcester, g	"	100,000	1	0 0	3 0 July, 1899	2 5 0	2 10 0

*Ex-dividend. ‡ Dividend pending.

PARIS.

Oct. 19.

Name of Company.	Country.	Product.	Capital Stock.	Par value.	Latest divs.	Prices. Op'ning	Prices. Closing.
			Francs.	Fr.	Fr.	Fr.	Fr.
Acieries de Creusot	France	Steel mfrs.	27,000,000	2,000	75.00	1,940.00	1,980.00
" " Firminy	"	" "	3,000,000	500	125.00	3.8 0.00	3,8 0 00
" " Fives-Lille	"	" "	12,000,000	500	45.00	570 0	561.00
" " Huta-Bank	Russia	Iron & steel		500	.....	4,505.00	4,545.00
" " la Marine	France	Steel mfrs.	20,000,000	500	50.00	1,745.00	1,767.50
" " Longwy	"	" "		500	25.00	1,275.00	1,270.00
"	"	Coal			220.00	6,350.00	6,475.00
Anzin	"	Steel		1,000	160.0	3,8 0.00	3,800.00
Blache-St. Vaast	Lower Cal.	Copper		500	1.0	2,950.00	2,950.00
Briansk	Russia	Coal & Iron		500	.....	1,225.00	1,262.50
Bruay	France	Coal	3,000,000	400	1,000.00	50,335.00	50,900.00
Cape Copper	S. Africa	Copper	15,000,000	50	1.50	128.00	128.25
Champ d'Or	"	Gold	3,375,000	25	3.75	38.50	40.00
Courrieres	France	Coal	600,000	500	70.00	2,790.00	2,795.00
De Beers Consolidated	S. Africa	Diamonds	98,750,000	125	15.63	651.00	659.00
Denain-Anzin	France	Steel		500	25.00	1,180.00	1,175.00
Dombrowa	Russia	Coal		500	12.50	1,010 00	1,020.00
Donetz	"	Steel				1,165.00	1,196.00
Dourges	"	Coal		1,000	400.00	28,995.00	29,0.0.00
Dynamite Centrale	France	Explosives		500	12.40	475.00	470 00
Epinac	"	Coal		2,500	81.24	600.00	600.00
Escombrera-Bleyberg	Spain	Lead		500	35.00	1,115.0	1,176.00
Fraser River	Brit. Col'mb	Gold	250.00	25	.....	7.00	7.00
Huanchaca	Bo ivia	Silver	40,000,000	125	5.00	54.25	54.25
Langlaagte Estate	S. Africa	Gold	1,750,000	25	11.25	87.00	86.00
Lagunas	Chile	Nitrates	16,250,000	125	12.50	30.00	31.00
Laurium	Greece	Zinc & lead	16,300,000	500	30.00	605 00	6 0.00
Lautaro	Chile	Nitrates	13.750,000	125	.....	108.00	1 5.00
Malfidano	Italy	Zinc	12,500,000	500	50.00	1,400.00	1,375.00
Metaux, Cie. Fran. de	France	Metal d'lers.	25,000,000	500	30.00	490.00	5*0.00
Mokta-el-Hadid	Algeria	Iron	18,312,500	500	40.00	1,250.00	1,249.00
Naphthe Baku	Russia	Petroleum				784.00	784.00
Naphthe, Le	"	"				1,3 0.00	1,300.00
Naphthe Nobel parts	"	"				660.00	660.00
Nickel	N. Caled'nia	Nickel	10.000.000	250	30.00	390.0	386 0
Penarroya	Spain	Coal, etc		500	65.00	2,5 0.00	2,670 00
Rebecca	Colo'do, U.S.	Gold	5,000,000	25	.....	8.50	8.50
Rio Tinto preferred	Spain	Copper	40,625,000	125	61.75	1,2*0.00	1,239.00
" " preferred	"	"	40,625,000	125	.....	154.00	153.00
Rive-de-Gier	France	Coal				22.00	21.50
Robinson	S. Africa	Gold	68,759,000	125	12.50	218.00	220.00
St. Etienne	France	Coal			18.00	470.0	465.00
Salines de l'Est	France	Salt		500	11.80	250.00	250.00
Salines du Midi	France	" etc		500	25.00	870 00	870.00
Sels Gem. de la Rus. Mer	Russia	" etc		500	25.00	575.00	565.00
Tharsis	Spain	Copper	33,750,000	50	12.50	222.0	221.00
Vicoigne-Nœux	France	Coal		1,000	750.00	26,950.00	27,200.00
Vieille Montagne	Belgium	Zinc	9,000,000	80	30.00	800.00	805.00

STOCK QUOTATIONS.

MEXICO.

Oct. 20.

Name of Company.	No. of shares.	Last div'd.	Prices. Op'g	Prices. Cl'g.
Chihuahua:				
Gloria	1,500	.....	$50	$30
Durango:				
Barradon y Cab	2,400	.....	40	40
Candelaria de Pan.	1,200	.....	30	30
Capusaya	2,400	.....	30	30
Penoles	2,500	30.00	2,000	2,000
Restauradora	10,000	.....	30	30
Rosario y Anexas	4,800	.....	10	10
Guanajuato:				
Angustias	2,400	5.00	300	297
Cinco Senores y An	2,000	15.00	845	870
El Oro	500	.....	30	30
do. pref.	2,000	.....	30	30
Guadalupe Hacie'a	10,000	2.00	235	240
Trinidad, aviador	2,000	.....	50	35
do. aviado	400	.....	4	50
Zona Minera de Paz	2,400	.....	38	35
Hidalgo:				
Amistad y Concord.	9,600	1.47	29	28
Arevalo	720	.....	200	200
Bartolome de Med.	2,000	3.00	68	64
Carmen	1,100	7.75	350	300
Luz de Maravillas	900	.....	150	139
Pabellon	800	27-89	30	20
Hidalgo:				
Real del Monte	2,554	10.00	500	520
San Francisco Ho	6,000	2.00	195	190
San Rafael y An.	1,200	12.00	1,000	1,020
do. aviado	1,200	7.00	400	410
do. del Oro	5,000	5.00	20	20
Soledad	960	5.00	300	330
Sorpresa	960	5.00	240	250
Union Hacienda	2,000	5.00	330	340
Mexico:				
Coronas	500	.....	75	75
Esperanza y An	3,000	10.00	1,575	1,600
Michoacan				
Luz de Borda ava	4,000	.....	80	22
Pueblo:				
Tlaxingo	2,400	.....	27	28
S. Luis Potosi:				
Concep. y An	2,400	.....	175	180
Sta. Mariadela Paz	2,400	10.00	720	840
Zacatecas:				
Asturiana y An	2,500	10.00	190	250
Cabezon	2,400	.....	15	15
C'delar. de Pinos	2,500	.....	18	160
Palma de Somb	2,400	.....	100	80

NOTE.—In most of the older Mexican mining companies the shares have no fixed par value The capital is formed of a certain number of shares, the total value not being named Many newer companies have a nominal par value, usually $50 or $100. Prices are in Mexican dollars.

ROSSLAND, BRITISH COLUMBIA.*

Oct. 26.

Name of Company.	No. of shares.	Par value.	Selling price.
Brandon & Gold. Cr.	1,500,000	$1	$0.29
Brit. Amer. Corp'at'n	7,500,000	5	5.00
Brit.Col. Dev. Co	1,500,000	2½	5.00
Canadian Gold Fields	10,000,000	0.10	.10
Cariboo	1,500,000	1	1.25
Commander	500,000	1	.....
Deer Park	1,000,000	1	.....
Dundee	1,000,000	1	.12
Evening Star	1,000,000	1	.08
Fern	500,000	1	.40
Gold Fields of B.C.	3,000,000	1½	.....
Hall Mines	250,000	5	3.25
Hattie Brown	1,000,000	1	.....
Homestake	1,000,000	1	.10
Iron Colt	1,000,000	1	.....
Iron Horse	1,000,000	1	.....
Iron Mask	500,000	1	.75
Josie	700,000	1	.....
Jumbo	500,000	1	.10
Kenneth	1,000,000	1	.....
Keystone	1,500,000	1	.....
KootenayGold Fields	20,000	5	.....
Lerwick	500,000	$1	$0.10
Lily May	1,000,000	1	10
Lon.&Van.Fin.Dev.Co	500,000	5	.....
London B. C. Gold F.	250,000	5	5.75
Monte Cristo	1,000,000	1	.....
New Gold Fields, B.C.	250,000	1	.....
Novelty	1,000,000	1	.....
Queen Bess Prop	120,000	5	5.50
Rambler Con	1,000,000	1	.40
Reco	1,200,000	1	.....
Red Mt.View	1,000,000	1	.....
St. Elmo	1,000,000	1	.05
St. Paul	1,000,000	1	.....
Sarah Lee	1,000,000	1	.....
Silver Queen	1,500,000	1	.15
Slocan Star	500,000	1	1.25
Vic.Tr MinesDev. Co.	25,000	5	.....
Virginia	500,000	1	.09
War Eagle Con	2,000,000	1	3.15
Waverly Mines	100,000	5	.....
White Bear	3,000,000	1	.10
Wild Horse	400,000	1	.....

* From Our Special Correspondent.

MEETINGS.

Name of Company.	Location.	Meeting.	Date.	Place of Meeting.
Anchor	Utah	Annual	Nov. 17.	Park City, Utah.
Biesinger & Beck	Utah	Special	Nov. 16.	307 Templeton Bldg., Salt Lake City.
Challenge Con	Nevada	Annual	Nov. 16	Mills Building, San Francisco, Cal.
Confidence	Nevada	"	Nov. 10.	414 California st., San Francisco, Cal.
E. Best & Belcher	Nevada	"	Nov. 22	331 Montgomery st, San Francisco, Cal.
Enterprise	Colorado	"	Nov. 21.	81 Montgomery st., Jersey City, N. J.
Great Western, q	California	"	Nov. 6	530 California st., San Francisco, Cal.
Mexican	Nevada	"	Dec. 5	309 Montgome y st, San Francisco, Cal.
N. Gould & Curry	Nevada	"	Nov. 20	437 Pine st, San Francisco, Cal.
Occidental Con	Nevada	"	Nov 20	309 Montgomery st San Francisco, C l.
Peruvian Ochre		"	Nov. 14	29 Liberty st, New York City
Puget Sound Iron.	California	"	Nov. 15	530 California st, San Francisco, Cal.

ASSESSMENTS.

Name of Company.	Location.	Sec.	Dlq.	Sale.	Amt.	Office.
			Oct.			
Belcher	Nev.	62	25	Nov. 15	.15	Mills Bldg., San Francisco, Cal.
Best & Belcher	Nev.	68	27	Nov. 17	.20	309 Montgomery st., San Francisco.
Bingham Placer.	Utah	1	16	Nov. 18	.10	201 McCornick Block, Salt Lake City
Bullion	Nev.	15	24	Nov. 14	.05	331 Pine st., San Francisco, Cal.
California Borax	Cal.	1	30	Nov. 28	2.00	310 Pine st., San Francisco Cal.
Marina Marsic'n	Cal.	20	24	Nov. 15	.05	217 Sacramento st., San Francisco.
Salmon River	Mont		20	Nov. 15	.02½	19 W. Granite st., Butte, Mont.
Success	Utah	7	21	Nov. 11	.01	617 McCornick Block, Salt Lake City
Sunbeam Con.	Utah	24	5	Nov. 21	.10	419 Dooly Block, Salt Lake City.
			Nov.			
Aetna	Id'ho		6	Nov. 27	.00½	Salt Lake City, Utah.
Alta	Nev.		28		.05	309 Montgomery st., San Francisco.
Andes	Nev.	49	6	Nov. 27	.05	309 Montgomery st., San Francisco.
Blue Bird	Utah	1	19	Dec. 9	.00½	Walker Bank Bldg., Salt Lake City.
Confidence	Nev.	33	23	Dec. 14	.15	414 California st., San Francisco.
Con. Imperial	Nev.	43	14	Dec. 5	.01	Mills Bldg., San Francisco, Cal.
Con. St. Gothard	Cal.		9		.10	
Con. Oil & Dev.	Cal.	1	16	Dec. 2	.10	503 California st., San Francisco.
Crown Point	Nev.	77	23	Dec. 14	.10	Mills Bldg., San Francisco, Cal.
Golden Channel	Cal.		20		.01½	
Hale & Norcross	Nev.	3	7	Nov. 28	.10	331 Pine st., San Francisco.
Homestake	Utah		9	Nov. 28	.00½	163 S. Main st., Salt Lake City.
Inyo Marble	Cal	33	6	Dec. 6	.05	Mills Bldg., San Francisco, Cal.
Justice	Nev.	66	22	Dec. 14	.05	309 Montgomery st., San Francisco.
Lady Wash.Con.	Nev.	12	16	Dec. 7	.05	309 Montgomery st., San Francisco.
Mariposa Com'l.	Cal	13	8	Dec. 5	10 00	320 Sansome st., San Francisco, Cal.
Mexican	Nev.	62	13	Dec. 4	.15	309 Montgomery st, San Francisco.
National Con	Cal.	9	27	Dec. 21	.10	773 Mission st., San Francisco, Cal.
Old Home Con	Cal		18		.01½	
Ophir	Nev.	76	14	Dec. 4	.20	309 Montgomery st., San Francisco.
Osceola Con	Cal.	8	11	Dec. 6	.01	307 Montgomery st., San Francisco.
Revenue	Utah	2	6	Dec. 11	.02	419 Dooly Block, Salt Lake City.
Reward	Cal.		4		.02½	
S. Belch. & Mid.	Nev.	24	2	Nov. 22	.05	309 Montgomery st., San Francisco.
Spanish Con	Cal		20		.05	
Tanana	Cal.		17		.10	
Tetro	Utah	10	18	Dec. 9	.01	617 McCornick Block, Salt Lake City.

DIVIDENDS.

Name of Co.	Date.	Am't.	Paid 1899.	Grand Total.
Alamo, Utah	.....	.....	$2,500	$2,500
Alaska-Mexican	.....	.....	72,000	429,031
Alaska-Treadwell	.....	.....	300,000	4,220,000
Aetna Con	.....	.....	45,000	195,000
AmalgamatedCop.	.....	.....	1,500,000	1,500,000
American Gold	.....	.....	48,000	434,000
Am. Sm &Ref.pref	.....	.....	568,750	568,750
American Zn. Mg	.....	.....	10,000	10,000
Am. Zinc-L. & Sm.	.....	.....	40,000	40,000
Arsconda Copper	Nov. 1	$2,400,000	3 990,000	12,150,000
Anchoria-Leland	.....	.....	72,000	234,000
Apollo Con., Alas	.....	.....	40,000	140,000
April Fool, Nev	.....	.....	16,000	16,000
Argonaut, Cal	.....	.....	203,000	380,000
Associated, Colo	.....	.....	12,000	84,000
Aurora Iron	.....	.....	50,000	800,000
Bald, Butte	.....	.....	112,500	762,141
Bonanza, Wash	.....	.....	5,000	5,000
Bona'za Dev., N.M	.....	.....	1,050,000	1,530,000
Boston-Aurora	.....	.....	21,312	21,312
Boston & Colo.Sm.	.....	.....	45,000	.....
Boston-Duenweg,z	Nov. 6	4,000	28,000	28,000
Boston-Little C Zn	Nov. 1	10,000	70,000	70,000
Boston Provid'nce	Nov. 2	750	10,500	10,500
Boston Quick, Cal.	.....	.....	10,000	10,900
Boston & Cal.	.....	.....	72,000	72,000
Boston & Mont	Nov20	2,225,000	5,375,000	14,500,000
Breece	.....	.....	30,000	60,000
Bul.Bec.&Champ.	.....	.....	100,000	2,418,400
Bunker Hill & S.	.....	.....	126,000	726,000
Calumet & Hecla	.....	.....	8,000,000	64,850,000
Carib'o-McK..B.C.	.....	.....	72,000	311,965
Centenn'l Eureka	.....	.....	120,000	2,150,000
Central Lead	.....	.....	50,000	132,000
Champion, Cal	Nov. 1	8,500	17,000	313,200
Charleston, S. C.	.....	.....	20,000	200,000
Colorado Sm.	.....	.....	100,000	1,945,000
Colonial Lead,Mo.	.....	.....	10,000	10,000
Com'wealthZ..pref	Nov.1	10,000	10,000	10,000
Consolidation Coal	.....	.....	205,000	5,716,650
Daly-West, Utah	.....	.....	30,000	30,000
Delta L. & Z., Mo	Nov 1	820	3,280	3,280
D'rTr'l No 2,Wash	.....	.....	25,000	42,500
Doe Run, Mo.	.....	.....	25,000	85,000
De Lamar, Idaho	.....	.....	48,000	2,346,000
El Dorado, Cal	.....	.....	10,000	10,000
Elkton, Colo.	.....	.....	37,500	694,461
Empire State, Ida.	.....	.....	197,027	258 929
Fanny Rawlings	.....	.....	20,000	20,000
Ferris-H g'ty, Wyo	.....	.....	5,000	5,000
Garfield Con.	.....	.....	12,000	34,000
Gold Coin, Vict.	.....	.....	100,000	250,000
Golden Cycle	.....	.....	85,000	238,500
Golden Eagle, Col.	.....	.....	5,000	5,000
Gold King, Col.	.....	.....	90,000	90,000
Golden M. & Ex.	.....	.....	10,000	10,000
Golden Star	.....	.....	41,000	41,500
Grafton,Colo	Nov. 1	10,000	10,000	10,000
Grand Central,Ut.	.....	.....	347,500	666.250
Grass Valley Ex.	.....	.....	30 000	30,000
Gwin, Cal	.....	.....	40,000	91.500
Helena & Frisco.	Nov. 1	125,000	250,000	675,000
Hidden Treas.,Cal.	.....	.....	3,600	3,600
Holy Terror	.....	.....	25,000	142,000
Homestake	.....	$105,000	$752,500	$7,933,750
Horn Silver	.....	.....	20,000	5,250,000
Idaho, B. Col.	.....	.....	28,000	292,000
Isabella	.....	.....	202,500	472,500
Jack Pot	.....	.....	75,000	75,000
Jamison, Cal.	.....	.....	11,700	50,700
Lake Superior Ir.	.....	.....	84,000	227,860
Last Chance, B. C.	.....	.....	25,000	45,000
Last Dollar, Colo.	Nov. 1	20,000	20,000	20,000
Le Roi, B. Col.	Nov. 7	240,000	240,000	1,305,000
Lillie	Nov. 1	11,250	123,750	290,360
Little Tiger, Cal.	Nov15	7,500	25,000	25,000
Mammoth	Nov. 4	40,000	260,000	1,610,000
Marion Con., Colo	.....	.....	5,000	300,000
M'y McKinney,Col	Nov. 1	30,000	30,000	30,000
Mead, Cal	.....	.....	40,000	120,000
Mercur	.....	.....	100,000	1,341,000
Mo.Zinc Fields,pfd	.....	.....	15,984	15,984
Modoc	.....	.....	25,000	125,000
Montana, Ltd.	.....	.....	98,855	453,700
Mont. Ore Pur	.....	.....	560,000	1,360,000
Moon-Anchor,Colo	Nov. 1	45,000	45,000	306,000
Morning Star, Cal.	.....	.....	63,600	751,800
Moulton, Mont	.....	.....	40,000	500.000
Mountain Copper	.....	.....	1,080,000	1,173,750
Mt. Shasta, Cal.	.....	.....	6,000	6,000
Napa Con.	.....	.....	90,000	1,040,000
New Idria	.....	.....	90,000	170,000
New York Zinc	.....	.....	7,000	7,000
N.Y.& H.-Rosario	.....	.....	135,000	1,125,000
North Star, Cal.	.....	.....	50,000	550,000
Olive	.....	.....	12,000	12,000
Okanogan, Wash.	.....	.....	3,125	3,125
Orig. Empire, Cal.	.....	.....	100,000	550,000
Osceola	.....	.....	279,000	2,801,500
Parrot	.....	.....	897,000	3,035,898
Pennsylvania, Cal	.....	.....	47,650	115,875
PennsylvaniaCoal	.....	.....	890,000	4,050,000
Petro, Utah	.....	.....	15,000	28,000
Pioneer, Cal.	.....	.....	12,500	62,500
Portland	.....	.....	540,000	2,377,080
Queen Bess Propr.	.....	.....	25,000	25,000
Quicksilver (Pref.)	.....	.....	21,500	1,845,411
Quincy	.....	.....	950,000	11,070,000
Rambler-Cariboo	.....	.....	10,000	50,000
Raven, Colo.	Nov20	10,000	20,000	49,500
Republic, Wash.	.....	.....	157,500	323,000
Royal, B. C.	.....	.....	50.000	1,050,000
Sacramento	.....	.....	50,000	138,000
St. Joseph Lead	.....	.....	112,500	2,897,000
Santa Rosalie, Cal.	.....	.....	5,000	130,000
Silver King	.....	.....	475,000	2,300,000
Small Hopes	.....	.....	25,000	3,325,000
Smuggler	.....	.....	105,000	1,200,000
South Swansea	.....	.....	37,500	150,000
Squaw Mountain	Nov. 1	10,000	10,000	10,000
Standard, Cal.	Nov22	20,000	60,000	3,899,226
Standard, Ida.	.....	.....	30,000	1,745,000
Stratton's Inde'ce	.....	.....	488,000	488,000
Swansea	.....	.....	50,000	241,000
Tamarack	.....	.....	240,000	5,910,000
Tomboy	.....	.....	80,000	730,000
United Z.&L.,pfd.	.....	.....	40,000	40,000
Utah, Utah	.....	.....	2,000	179,000
Vindicator	.....	.....	$177,625	304,500
War Eagle, B. C.	.....	.....	262,500	440,250
Weath. Bonanza	.....	.....	1,562	1,562
Wolverine	.....	.....	210,000	270,000
Yellow Aster	.....	.....	95,000	263,789
Grand Total	.....	.....	$5,197,820	$34,841,320	211,891,089

DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Shares. Par Val	Assessments. Total Levied.	Assessments. Date and Amount of Last.				Dividends. Total Paid.	Dividends. Date and Amount of Last.		
1	Ætna Cons., q	Cal..	$500,000	100,000	$5	*					$195,000	Oct..	1899	.10
2	Alaska-Mexican, g	Alask	1,000,000	200,000	5						411,031	July..	1899	.10
3	Alaska-Treadwell, g	Alask	5,000,000	200,000	25	*					4,145,000	July..	1899	.37½
4	Alamo, g. c. i	Utah.	125,000	125,000	1	$937	Mar..	1898	.00¼		2,500	April.	1899	.02
5	Alice, g. s	Mont.	10,000,000	400,000	25	*					1,075,000	April.	1898	.05
6	Amalgamated, c	Mont.	75,000,000	750,000	100						1,500,000	Oct..	1899	2.00¼
7	American Coal	Md..	1,500,000	60,000	25						727,500	Sept..	1899	1.25
8	American Gold, g. s. c. l	Colo..	3,000,000	300,000	10	*					434,000	June.	1899	.09
9	Amer. Sm. &Ref., pref.	U. S..	32,500,000	32,500	100						568,750	Oct..	1899	1.75
10	Am. Zinc, Lead & Sm	Mo..	500,000	200,000	25						40,000	Oct..	1899	.10
11	Anaconda Copper	Mont.	30,000,000	1,200,000	25						12,150,000	Nov..	1899	2.00
12	Anchoria-Leland, g	Colo..	600,000	600,000	1	*					198,000	April	1899	.03
13	Appie Ellen, g	Nev..	600,000	600,000	1						25,000	Aug..	1898	.01
14	April Fool	Cal..	500,000	500,000	1						11,000	Sept..	1899	.01
15	Argonaut	Cal..	2,000,000	200,000	10						340,000	Aug..	1899	.10
16	Associated, g	Colo..	1,250,000	1,250,000	1	*					84,000	Feb..	1899	.01
17	Atlantic, c	Mich.	1,000,000	40,000	25						780,000	Feb..	1898	1.00
18	Aurora, l	Mich.	2,500,000	100,000	25	*					890,000	June.	1899	.50
19	Bald Butte	Mont.	250,000	250,000	1	*					747,141	Sept..	1899	.06
20	Big Six, g. s	Colo..	500,000	500,000	1						15,000	May..	1898	.00½
21	Bonanza	Wash	1,000,000	1,000,000	1	*					5,000	Sept..	1899	.00¼
22	Bonanza, Dev	NMex	3,000,000	300,000	10						1,500,000	June.	1899	3.50
23	Boston-Aurora, pref	Mo..	800,000	32,000	25						15,984	Sept..	1899	.17
24	Boston & California	Cal ..	600,000	600,000	1						72,000	June.	1899	.06
25	Boston-Little Circle, z.	Mo-K.	1,000,000	100,000	10	*					45,000	Sept..	1899	.15
26	Boston & Mont. Con	Mont.	3,750,000	150,000	25	*					12,275,000	Aug..	1899	10.00
27	Boston, q	Cal..	1,000,000	100,000	10	*					10,000	Oct..	1899	.10
28	Breece, l	Colo..	5,000,000	200,000	25						60,000	Sept..	1899	.05
29	Bullion-Beck & Champ.	Utah.	1,000,000	100,000	10	*					2,408,400	Sept..	1899	.10
30	Bunker Hill & S., s. l	Idaho	3,000,000	300,000	10						705,000	May..	1899	.07
31	Calumet & Hecla, c	Mich.	2,500,000	100,000	25						64,850,000	Sept..	1899	20.00
32	Centen l-Eureka, g.s.l.c	Utah.	1,500,000	30,000	50	30,000	Mar..	1889	1.00		2,150,000	Aug..	1899	.50
33	Central Lead, l	Mo..	1,000,000	10,000	100	*					127,000	Sept..	1899	.50
34	Champion, g. s	Cal..	340,000	34,000	10						296,200	April.	1898	.25
35	Charleston, p. r	S. C..	1,000,000	10,000	100	*					200,000	June.	1899	2.00
36	Consolidation Coal	Md..	10,250,000	102,500	100						5,716,650	Feb..	1899	2.00
37	Con. Tiger & Poorman	Idaho	1,000,000	1,000,000	1	*					20,000	Dec..	1898	.02
38	Cræsus, g	Cal..	1,000,000	200,000	5						30,000	Dec ..	1898	.15
39	Crowned King, g. s. l	Ariz .	6,000,000	600,000	10	*					232,000	Dec..	1898	.02
40	Deadwood-Terra, g	S. D..	5,000,000	200,000	25	*					1,350,000	May..	1898	.15
41	De Lamar, g. s	Idaho	2,000,000	400,000	5						2,346,000	May	1899	.12
42	Delta Lead & Zinc	Mo...	100,000	100,000	1	*					2,460	Oct..	1899	.00¼
43	Deer Trail No. 2	Wash	1,000,000	1,000,000	1						40,000	Sept..	1899	.00¼
44	Doe Run, l	Mo...	500,000	5,000	100						85,000	Sept..	1899	.50
45	Elkton Cons., g	Colo..	1,250,000	1,250,000	1						694,461	Sept..	1899	.03
46	El Paso, g. s	Colo..	650,000	650,000	1						12,393	Jan..	1898	.01
47	Empire State-Idaho	Idaho	1,000,000	100,000	10						229,375	Sept..	1899	.30
48	Enterprise, s. l	Colo..	500,000	500,000	1						900,000	Sept..	1898	.05
49	Fanny Rawlings, g. s.	Colo..	1,000,000	1,000,000	1						20,000	Aug..	1899	.01
50	Ferris-Haggarty, c.g.s.	Wyo.	1,000,000	1,000,000	1						5,000	Mar..	1899	.00½
51	Garfield Con., g	Colo..	1,200,000	1,200,000	1						34,000	May..	1899	.01
52	Geyser-Marion, g	Utah.	1,500,000	300,000	5						96,000	Sept..	1898	.02
53	Gold Coin of Victor, g	Colo..	1,000,000	1,000,000	1						240,000	Sept..	1899	.01
54	Golden Cycle, g	Colo..	1,000,000	200,000	5						228,500	Sept..	1899	.05
55	Gold King, g	Colo..	1,000,000	1,000,000	1						60,000	July..	1899	.03
56	Golden Eagle, g	Colo..	500,000	500,000	1						5,000	July..	1899	.01
57	Golden Reward, g	S. D..	1,000,000	100,000	10						155,000	Feb..	1898	.15
58	Grand Central, g	Utah.	250,000	250,000	1	*					666,250	Sept..	1899	.24
59	Grass Valley Expl	Cal..	100,000	30,000	2	*					22,500	July..	1899	.25
60	Gwin, g	Cal..	1,000,000	20,000	50	286,000	Jan..	1898			81,500	Aug..	1899	.25
61	Helena & Frisco, l. s	Idaho	2,500,000	500,000	5	*					550,000	June.	1899	.25
62	Holy Terror, g	S. D..	500,000	500 000	1						142,000	July..	1899	.01
63	Homestake, g	S. D..	21,000,000	210,000	100	200,000	July..	1878	1.00		7,828,750	Sept..	1899	.50
64	Horn-Silver, g. s. c.sp.l	Utah.	10,000,000	400,000	25	*					5,279,000	July..	1899	.05
65	Iowa, g	Colo.	1,000,000	1,000,000	1						95,000	June.	1898	.00½
66	Iron Mountain, g. s. l. i.	Mont.	5,000,000	500,000	10	*					507,500	April.	1898	.02
67	Isabella, g	Colo..	2,250,000	2,250,000	1						472,500	Sept..	1899	.01
68	Jack Pot, g	Colo..	1,250,000	1,250,000	1						75,000	Sept..	1899	.04
69	Jamison	Cal ..	3,900,000	390,000	10	144,000	Nov..	1896	.17		50,700	April.	1899	.10
70	Lake Superior Iron	Mich.	2,100,000	84,000	25						736,000	Feb ..	1899	1.00
71	Lillie, g	Colo..	1,250,000	250,000	5						279,110	Sept..	1899	.05
72	Mammoth, g. s. c	Utah.	10,000,000	400,000	25	*					1,530,000	Sept..	1899	.15
73	Marion Con	Colo..	5,000,000	500,000	10	*					300,000	May..	1899	.01
74	Matoa, g	Colo..	1,000,000	1,000,000	1						25,000	Dec...	1898	.02½
75	Mead, g	Cal..	200,000	200,000	1						120,000	June.	1899	.20
76	Mercur, g	Utah.	5,000,000	200,000	25	*					1,291,000	July..	1899	12½
77	Minnesota Iron	Minn.	16,500,000	165,000	100	*					4,735,000	Oct..	1898	1.50
78	Missouri Zinc Fields, pf	Mo...	400,000	16,000	25						13,320	Sept..	1899	.17
79	Modoc, g	Colo..	500,000	500,000	1						170,000	Sept.	1899	.02
80	Montana, Ltd., g. s	Mont.	3,300,000	657,128	5	*					453,700	April.	1899	.12
81	Montana Ore Purchas'g	Mont.	2,500,000	80,000	25	*					1,280,000	Sept..	1899	1.00
82	Moon-Anchor Con., g	Colo..	1,750,000	600,000	1						261,000	Nov..	1898	.07½
83	Morning Star, g	Cal...	240,000	2,400	100	70,800	Feb..	1887	.75		744,690	Sept..	1899	3.00
84	Mt. Rosa, g	Colo..	1,000,000	1,000,000	1						60,000	Jan..	1898	.02
85	Mt. Shasta	Cal...	100,000	20,000	5						6,000	May..	1899	.30
86	Moulton	Mont.	2,000,000	400,000	5						480,000	Feb..	1899	.05
87	Mountain Copper	Cal ..	6,250,000	250,000	25	*					633,750	Sept..	1899	2.16
88	Napa Cons., q	Cal ..	700,000	100,000	7	*					1,040,000	Oct..	1899	.30
89	New Central Coal	Md...	1,000,000	50,000	20						470,000	April.	1899	.40
90	New Idria, q	Cal...	500,000	100,000	5						170,000	Oct..	1899	.30
91	New York Zinc	Mo...	700,000	28,000	25	*					7,000	Oct..	1899	.25
92	N.Y.&Hon Rosario, s.g.	C. A..	1,500,000	150,000	10	*					1,110,000	Sept..	1899	.10
93	North Star, g	Cal ..	5,000,000	500,000	10	20,000	June	1885	.02		550,000	April.	1899	.25
94	Nugget	Colo..	1,000,000	1,000,000	1						20,000	Aug..	1898	.00½
95	Orphan Bell, g	Colo..	1,000,000	1,000,000	1						115,000	Mar..	1898	.01
96	Original Empire, g	Cal...	5,000,000	50,000	100	92,500	Aug..	1896	1.25		500,000	May..	1899	1.00
97	Osceola, c	Mich.	2,500,000	93,000	25	*					2,801,500	June.	1899	3.00
98	Parrot, c	Mont.	2,300,000	230,000	10	*					2,690,898	May..	1899	1.50
99	Pennsylvania Coal	Pa....	5,000,000	100,000	50						14,050,000	May..	1899	8.00
100	Pennsylvania Cons	Cal...	5,150,000	51,500	100	50,051	Feb..	1892	.05		105,575	Sept..	1899	.20
101	Petro, g	Utah.	1,000,000	200,000	5						5,000	July..	1899	.02½
102	Pioneer g	Cal...	1,000,000	100,000	10						62,500	Mar..	1899	.12½
103	Portland, g	Colo..	3,000,000	3,000,000	1	*					2,347,080	Sept..	1899	.02
104	Quicksilver, pref	Cal...	4,300,000	43,000	100						1,845,411	May..	1899	2.50
105	Quincy, c	Mich.	2,500,000	100,000	25	*					11,070,000	Aug..	1899	6.00
106	Raven, g	Colo..	1,500,000	1,500,000	1						29,500	Sept..	1899	.00½
107	Republic Cons., g	Wash	3,500,000	3,150,000	1						323,000	Sept..	1899	.01
108	Sacramento, g	Utah.	5,000,000	1,000,000	5						133,000	Sept..	1899	.00½
109	St. Joseph, l	Mo...	3,000,000	300,000	10	*					2,859,500	June.	1899	.50
110	Santa Rosalia, g.s	Cal...	100,000	100,000	1						125,000	Feb..	1898	1.10
111	Silver King, g. s. l	Utah.	3,000,000	150,000	20	3,000	Jan..	1897	.02		2,250,000	Sept..	1899	.25
112	Small Hopes, s	Colo..	5,000,000	250,000	20	*					3,325,000	Feb..	1899	.10
113	Smuggler, s. l. z	Colo..	1,000,000	1,000,000	1						1,185,000	Sept..	1899	.01
114	South Swansea, s. l	Utah.	150,000	150,000	1						150,000	Sept..	1899	.05
115	Standard Cons., g. s	Cal...	2,000,000	200,000	10	99,888	June.	1890	.50		3,879,226	Aug..	1899	.10
116	Standard	Idaho	500,000	500,000	1						1,745,000	April.	1899	.06
117	Stratt n's Independ'ce	Colo.	5,500,000	1,100,000	5	*					480,000	Sept..	1899	.48
118	Swansea, s. l	Utah.	500,000	100,000	5						241,000	Oct..	1899	.05
119	Tamarack, c	Mich.	1,500,000	60,000	25						5,910,000	June.	1899	4.00
120	Tomboy, g	Colo..	2,000,000	200,000	10						730,000	May..	1899	4.00
121	United, z. l., pref	Mo...	1,000,000	40,000	25	*					20,000	July..	1899	.50
122	Utah	Utah.	1,000,000	100,000	10	*					179,000	Jan..	1899	.02
123	Victor, g	Colo..	1,000,000	200,000	5	*					1,155,000	Dec..	1898	.50
124	Vindicator, Cons. g	Colo..	1,500,000	1,015,000	1						253,750	July..	1899	.05
125	War Eagle, Cons	B. C..	2,000,000	1,750,000	1						414,000	Sept..	1899	.01½
126	Wolverine, c	Mich.	1,500,000	60,000	25	180,000	Mar..	1895	1.00		270,000	Oct..	1899	1.50
127	Yellow Aster, g	Cal...	1,000,000	100,000	10	*					253,789	Sept..	1899	.10

NON-DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Shares. Par Val	Assessments. Total Levied.	Assessments. Date and Amount of Last.			
1	Ada Cons., s. l	Utah.	$100,000	100,000	$1	$3,333	Nov..	1895	.01½	
2	Alliance, g. s. l	Utah.	150,000	150,000	1	200,000	Dec..	1895	.10	
3	Allouez, c	Mich.	2,500,000	100,000	25	1,520,937	June.	1894	1.00	
4	Alpha Cons., g. s	Nev..	105,000	105,000	1	319,200	Aug..	1899	.03	
5	Alta, s	Nev..	216,000	108,000	2	3,675,710	June.	1899	.05	
6	Alta	Utah.	750,000	750,000	1	938	Mar..	1899	.00½	
7	American Quartz, g	Cal...	1,000,000	100,000	10	1,000	Feb..	1897	.01	
8	Anchor, g. s. l	Utah.	1,500,000	150,000	10	560,000	Aug..	1893	.20	
9	Andes, g	Nev..	300,000	100,000	3	1,205,000	June.	1899	.05	
10	Arnold, c	Mich.	1,500,000	60,000	25	180,000	Jan..	1899	3.00	
11	Baliol, g	Cal...	1,000,000	100,000	10	55,000	Mar..	1898	.30	
12	Belcher, s. g	Nev..	312,000	104,000	3	3,535,600	Aug..	1899	.10	
13	Belle Isle	Nev..	10,000,000	100,000	100	240,271	July..	1896	.10	
14	Benton Con. s	Nev..	10,800,000	108,000	100	587,023	June	1897	.25	
15	Best & Belcher, g. s	Nev..	302,400	100,800	3	2,609,803	Aug..	1899	.10	
16	Bogan	Utah.	1,250,000	125,000	10	26,875	Dec..	1897	.01½	
17	Boston & Cp. Ck., g	Colo..	400,000	200,000	2	20,000	Aug..	1898	.10	
18	Brunswick Cons., g	Cal...	500,000	500,000	1	160,000	July..	1897	.03	
19	Bullion, s. g	Nev..	100,000	100,000	1	3,125,000	May..	1899	.05	
20	Caledonia	Nev..	300,000	200,000	3	3,210,000	Nov..	1897	.10	
21	Centennial, c	Mich.	2,500,000	100,000	25	460,000	Mar..	1898	3.00	
22	Central Eureka, g	Cal...	4,000,000	400,000	10	135,942	Sept..	1899	.03	
23	Challenge Cons, s.g	Nev..	150,000	50,000	3	438,000	Aug..	1899	.10	
24	Chollar, g. s	Nev..	336,000	112,000	3	2,976,600	Aug..	1899	.15	
25	Confidence, g. s	Nev..	74,880	24,960	3	545,118	May..	1899	.20	
26	Con., Cal. & Va	Nev..	540,000	216,000	2½	784,000	Oct..	1899	.25	
27	Cons. Imperial, g. s	Nev..	500,000	500,000	½	2,251,000	July..	1899	.01	
28	Con. New York	Nev..	100,000	100,000	1	160,500	Nov..	1898	.03	
29	Crown Point, g. s	Nev..	300,000	100,000	3	2,980,000	May..	1899	.10	
30	Dalton, s. l	Utah.	2,500,000	500,000	5	58,750	April.	1899	.01	
31	Dexter	Nev..	1,000,000	200,000	5	38,000	Apr..	1898	.15	
32	Diamond Con	Utah.	1,000,000	200,000	5	8,000	Mar..	1899	.04	
33	Eagle, g. s	Cal...	500,000	100,000	5	5,000	Dec..	1896	.05	
34	Eagle, g. s	Ore..	1,000,000	100,000	10	6,000	Oct..	1898	.01½	
35	Emerald	Utah	300,000	300,000	1	3,000	Oct..	1898	.00½	
36	Eureka Cons., g. s. l	Nev..	1,000,000	50,000	20	590,000	Oct..	1899	.10	
37	Eureka Con. Drift, g.	Cal...	500,000	500,000	1	182,500	Sept..	1899	.00½	
38	Exchequer, g. s	Nev..	1,000,000	100,000	1	1,020,000	Dec..	1897	.05	
39	Florence	Utah.	1,000,000	200,000	5	1,000	June.	1899	.00¼	
40	Four Aces	Utah.	250,000	250,000	1	5,000	Mar..	1898	.01	
41	Galena	Utah.	1,000,000	100,000	10	10,000	Oct..	1898	.10	
42	Geyser, s. l	Colo..	5,000,000	500,000	10	1,225,000	July..	1899	.10	
43	Gold Belt, g. s	Utah.	500,000	500,000	1	3,012	July..	1896	.00½	
44	Gold Coin	Colo..	1,000,000	200,000	5	10,000	Mar..	1899	.05	
45	Golden Eagle, g	Nev..	400,000	400,000	1	4,000	April.	1899	.01	
46	Golden Fleece Grav. g	Cal...	130,000	130	1000	56,260	Mar..	1897	2.00	
47	Gold & Silver Carb	Utah.	500,000	500,000	1	2,500	Mar..	1899	.00½	
48	Gould & Curry	Nev..	324,000	108,000	3	4,641,350	Oct..	1899	.15	
49	Granite Hill, g. s	Cal...	500,000	100,000	5	124,000	June.	1899	.03	
50	Great Eastern, g	Utah.	1,500,000	300,000	5	6,500	July..	1899	.00½	
51	Great Western, q	Cal...	5,000,000	50,000	100	75,520	May..	1899	.15	
52	Hale & Norcross, g.s..	Nev..	11,200,000	112,000	100	5,716,280	May..	1899	.10	
53	Head Center Con., s.g	Ariz..	5,000,000	200,000	25	25,125	Mar..	1899	.20	
54	Horse Shoe Bar Cons.	Cal...	6,000,000	60,000	100	85,800	Jan..	1899	.05	
55	Joe Bowers, Ext. gcls.	Utah.	112,000	450,000	¼	9,000	July..	1899	.01	
56	Julia Con	Nev..	110,000	110,000	1	1,498,800	Jan..	1899	.03	
57	Jupiter, g	Cal...	2,000,000	20,000	100	80,000	Feb..	1898	.20	
58	Justice, g. s. c	Nev..	210,000	105,000	2	3,662,500	Aug..	1899	.10	
59	Kentuck	Utah.	600,000	300,000	2	30,000	Aug..	1898	.10	
60	Kentuck Cons., s	Nev..	105,000	105,000	1	125,300	June.	1898	.05	
61	Lacrosse, g	Colo..	1,000,000	100,000	10	*				
62	Little Pittsburg	Utah.	2,000,000	400,000	5	21,000	June.	1899	.00¾	
63	Lower Mammoth	Utah.	150,000	150,000	1	22,500	June.	1899	.05	
64	Lucky Bill	Utah.	300,000	120,000	2.50	56,400	June.	1898	.01½	
65	Marguerite, g	Cal...	500,000	50,000	10	85,000	Aug..	1899	.10	
66	Marina Marsicano, g.	Utah.	1,000,000	100,000	10	49,360	June.	1899	.05	
67	May Day	Utah.	100,000	400,000	¼	4,000	Jan..	1899	.00½	
68	Mayday, g. s	Cal ..	50,000	50,000	1	10,000	July..	1899	.10	
69	Mayflower, g	Cal...	1,200,000	60,000	20	6,000	Sept..	1898	.05	
70	Merced, g	Cal...	2,250,000	150,000	15	200,000	July..	1896	2.00	
71	Meteor, s. l	Utah.	600,000	300,000	2	9,734	Sept..	1899	.01	
72	Mexican, g. s	Nev..	302,400	100,800	3	2,268,800	June.	1899	.10	
73	Montreal	Utah.	2,500,000	250,000	10	30,625	April.	1899	.05	
74	Mt. Diablo s	Nev..	5,000,000	50,000	100	150,000	Dec..	1898	.10	
75	Morning Star, s	Nev..	1,500,000	150,000	10	32,500	Dec..	1898	.00½	
76	Nashville, g	Cal ..	115,000	11,500	10	2,000	Sept..	1898	.17	
77	North Banner, g. s	Cal...	1,000,000	100,000	10	21,794	Oct..	1896	.02	
78	North Belle Isle, s	Nev..	10,000,000	100,000	100	523,074	July..	1896	.10	
79	No. Gould & Curry	Nev..	100,000	100,000	1	375,000	Dec..	1898	.10	
80	Northern Light, g	Utah.	2,000,000	400,000	5	80,000	July..	1898	.10	
81	Occidental Cons g s	Nev..	300,000	100,000	3	514,179	Sept..	1899	.05	
82	Ophir, g. s	Nev..	324,000	108,000	3	4,635,968	Aug..	1899	.15	
83	Opohonga	Utah.	200,000	100,000	2	1,500	June.	1898	.01	
84	Oro Cache, g. s	S. D..	1,250,000	250,000	5	6,250	July..	1893	.00½	
85	Osceola, g	Cal ..	10,000,000	100,000	100	10,924	Sept..	1898	.01	
86	Overman, g. s	Nev..	230,400	115,200	2	4,141,110	Sept..	1899	.05	
87	Peer, s	Ariz..	10,000,000	100,000	100	215,000	July..	1894	.05	
88	Peerless, s	Nev..	10,000,000	100,000	100	410,000	July..	1894	.05	
89	Pine Hill, g	Cal ..	1,000,000	100,000	10	30,000	July..	1897	.05	
90	Potosi, g. s	Nev..	336,000	112,000	3	2,185,200	Sept..	1899	.15	
91	Powning	Cal...	750,000	75,000	10	2,800	Aug..	1899	.01	
92	Red Mountain, s	Colo..	300,000	60,000	5	22,500	Mar..	1891	.12½	
93	Rescue, g	Nev..	100,000	10,000	10	5,500	Feb..	1899	.05	
94	Reward, g	Cal...	64,000	64,000	1	63,680	Nov..	1898	.02	
95	Ridge, c	Mich.	500,000	20,000	25	239,939	Feb..	1897	1.00	
96	Savage, g. s	Nev..	280,000	112,000	2½	7,321,000	Sept..	1899	.10	
97	Scorpion, s	Nev..	100,000	100,000	1	445,000	Dec..	1897	.05	
98	Seg. Belcher & Mg s.	Nev..	200,000	100,000	2	373,000	June.	1899	.05	
99	Sevier, g. s	Utah.	1,250,000	250,000	5	50,000	April.	1897	.04	
100	Shower Con	Utah.	2,000,000	400,000	5	8,000	Aug..	1899	.02	
101	Sierra-Nevada, g. s	Nev..	300,000	100,000	3	6,721,910	Aug..	1899	.15	
102	Silver Hill, s	Nev..	108,000	108,000	1	2,220,200	May	1898	.05	
103	Silver King, s	Ariz..	10,000,000	100,000	100	490,000	Aug..	1899	.25	
104	Silver Queen, c	Ariz..	5,000,000	200,000	25	*				
105	Silver State, g	Colo..	700,000	700,000	1	*				
106	Silver State, s. g. l	Utah.	100,000	100,000	1	1,000	Sept..	1897	.00½	
107	Siskiyou Con., s	Cal ..	2,000,000	200,000	10	46,000	April.	1898	.01	
108	Snow Flake	Utah.	500,000	100,000	5	51,000	July..	1899	.02	
109	South Fork Con	Utah.	50,000	50,000	1	5,000	Mar..	1898	.01	
110	South Side	Mich.	1,000,000	40,000	25	4,000	Jan..	1899	.10	
111	Star, g. s	Utah.	1,000,000	200,000	5	7,000	Feb..	1899	.03	
112	Success	Utah.	30,000	300,000	0.10	9,750	Oct..	1899	.01	
113	Sunbeam Cons	Utah.	250,000	250,000	1	73,125	Oct..	1899	.10	
114	Tecumseh, c	Mich.	1,000,000	40,000	25	40,000	July..	1897	1.00	
115	Temonj, g	Colo..	1,000,000	1,000,000	1					
116	Tetro	Utah.	300,000	300,000	1	30,000	Sept..	1899	.01	
117	Triumph	Utah.	1,000,000	100,000	10	1,000	April.	1899	.01	
118	Union Cons., g. s	Nev..	250,000	100,000	2½	2,648,000	Sept..	1899	.15	
119	Utah Cons., s	Utah.	100,000	100,000	1	485,000	Sept..	1899	.05	
120	Valeo	S. D..	200,000	200,000	1	10,000	May..	1899	.05	
121	Victory, g. s	Cal...	1,250,000	250,000	5	2,625	Nov..	1899	.00½	
122	Watt Blue Gravel, g.	Colo..	1,100,000	100,000	10	58,000	May..	1899	.03	
123	Work, g	Utah.	1,250,000	1,250,000	1

CHEMICALS, MINERALS, RARE ELEMENTS, ETC.—CURRENT PRICES.

	Cust. Meas.	Price.
Abrasives—		
Carborundum, f.o.b.		
Niagara Falls grains..	lb.	$0.10
Powd., F. FF. FFF..	"	.08
Minute No. 1.....	"	.15
No. 15.....	"	1.00
Corundum, N. C.....	"	.07@.10
Chester.....	"	.04½@.05
Emery, Turkish flour...	"	.03
Grains.....	"	.05
Naxos flour.....	"	.03
Grains.....	"	.05
Chester flour.....	"	.03
Grains.....	"	.05
Peekskill flour.....	"	.01¾
Grains.....	"	.02½
Crude, Kuluk, best...lg. ton		18.50
Levant, "		22.00
Naxos (Greek) best	"	26.00
Pumice Stone, Am. powd.	lb.	.01½@.02
Italian, powdered....	"	.01¾
Lump, per quality....	"	.04@.40
Rottenstone, ground....	"	.02½@.03
Lump, per quality....	"	.05@.14
Rouge.....	"	.17@.30
Tripoli, prepared.....sh. ton.		20.00
Acids—Acetic, 30% pure..100 lbs.		2.75@4.00
30% ch. pure.....	"	6.00@8.00
80% pure.....	"	7.50@9.50
Benzoic, English.....	oz.	.09@.09½
German.....	lb.	.46@.47
Boracic, pure cryst....	"	.11
Powdered.....	"	.11½@.11¾
Carbolic, cryst. in drums	"	.16
Carbonic, liquid.....	"	.15
Chromic, crude.....	"	.23
Chem. pure.....	"	.50
Absol. ch. pure.....	"	1.75
Hydrochloric, ch. pure.	"	.08
Hydrofluoric, 30%.....	"	.03@.04½
48%.....	"	.05@.06
Best.....		.25
Nitric, chem. pure.....	"	.10
Sulphuric, 98%.....	"	.02
Chem. pure.....	"	.07
Tartaric, cryst.....	"	.32
Powder.....	"	.32½
Alcohol—Grain.....	gal.	2.42@2.44
Refined wood, 95@97%	"	.80@.85
Purified.....	"	1.20@1.55
Alum—Lump.....100 lbs.		1.75
Ground.....	"	1.85
Chrome, com'l.....	"	3.50
Aluminum—		
Nitrate.....	lb.	1.50
Oxide, com'l, common..	"	.06½
Best.....	"	.20
Pure.....	"	.80
Hydrated.....	"	.05
Sulphate, pure.....	"	.02
Com'l.....	"	1.50
Ammonia—Aqua, 16°..	"	.04
18°.....	"	.04½@.05½
20°.....	"	.05@.06
26°.....	"	.07@.08
Ammonium—Bromide, p'r	"	.53@.53
Carbonate lumps.....	"	.08¼@.08¾
Powdered.....	"	.09¼@.09¾
Muriate, gran., white...	"	.06¼
Gran. ch. p.....	"	.09½
Lump.....	"	.09½
Gray.....	"	.06¼
Nitrate, white, pure (99%)	"	.10½
Phosphate, com'l.....	"	.12@.15
Chem. pure..	"	.60
Antimony—Glass.....	"	.30@.40
Needle, lump.....	"	.05½@.06
Powdered, ordinary..	"	.05¾
Best.....	"	.08½
Oxide, com'l white, 95%.	"	.09½
Com'l white, 99%.....	"	.10½
Com'l gray.....	"	.07@.08
Sulphuret, com'l.....	"	.16
Arsenic—White	"	.04¾@.05¼
Red.....	"	.07¾@.08½
Asphaltum—		
Ventura, Cal.....sh. ton		32.00
Cuban, refined.....	lb.	.04½
Common.....	"	.02
Egyptian, refined.....	"	.06½
Trinidad, refined.....	"	.01½
San Valentino .....lg. ton		15.00
Gilsonite, Utah, ordinary	lb.	.03¼
Select.....	"	.03¾
Barium—Carbonate, Lump, 80@90% ....sh. ton		25.00@27.50
92@98%.....	"	26.00@29.00
Powdered, 80@90%...	lb.	.01¾@.02
Chloride, com'l.....	"	.02¼
Chem. pure cryst	"	.05
Nitrate, powdered	"	.05¾
Oxide, com'l, hyd.cryst	"	.18@.22
Hydrated, pure cryst.	"	.25
Pure, powd.....	"	.27
Sulphate.....	"	.01
Barytes—Crude, No. 1..sh. ton		9.00@10.00
No. 2.....	"	8.00@8.25
No. 3.....	"	7.75@8.00
Prime White.....	"	18.00@20.00
Floated.....	"	19.00@20.00
Bauxite—Ga. & Ala, f.o.b. cars, first grade.....lg. ton		5.00
Second grade.....	"	3.75
Benzole—90%.....	gal.	1.00@1.10
Bismuth—Oxide, hydr..	lb	2.25@2.56
Subnitrate cryst.....	oz.	.09@.10
Bitumen, "B".....	lb.	.03¼
"A".....	"	.05
Bone Ash.....	"	02¾@.03¼
Borax—Cryst. and pow'd	"	.07@.07¼
Calcined.....	"	.22
Bromine—Bulk.....	"	.45
Cadmium—Metallic.....	"	1.50@2.00
Sulphide.....	"	2.00@3.00
Sulphate.....	"	2.00@2.50
Carbide, in ton lots, f. o. b. Niagara Falls, N.Y.	lb.	.03@.04

	Cust. Meas.	Price.
Calcium—		
Acetate, pure white.....100 lbs.		$1.00
Gray.....	"	1.35@1.40
Brown	"	.90@.95
Carbonate, ppt.....	lb.	.05
Chloride, com'l.....100 lbs.		.95
Best	"	1.90
Sulphite.....	lb.	.05
Cement—		
Portland, Am., 400 lbs..	bbl.	1.50@2.00
Foreign.....	"	1.75@2.50
"Rosendale," 300 lbs...	"	.90
Sand cement, 400 lbs...	"	1.55@1.95
Slag cement, imported.	"	1.65
Ceresine—		
Orange and Yellow.....	lb.	.11
White.....	"	.13
Chalk—Lump, bulk.....sh. ton		2.15@2.25
Precipitated.....	lb.	.04@.04½
French..... .....100 lbs.		.30@.35
Chlorine—Liquid.....	lb.	.30
Water.....	"	.15
Chrome Ore—		
(50% chrome) ex ship....lg. ton		20.00@21.00
Sand.....	"	35.00
Clay, China—Am. com., ex-dock, N. Y. ....lg ton		7.70
Am. best, ex-dock, N. Y.	"	8.70
English, common.....	"	11.00
Best grade.....	"	16.00
Fire, ground, f.o.b. Jersey City, N. J..... ...sh. ton		4.00@5.00
Slip Clay.....	"	6.00
Cobalt—Carbonate.....	lb.	1.50
Nitrate	"	1.30
Oxide—Black.....	"	2.00
Gray.....	"	2.50
Smalt, blue ordinary	"	.20
Best.....	"	.30
Chem. pure.....	"	5.00
Copperas.....100 lbs.		.62½
Copper—		
Carbonate.....	lb.	.18@.20
Chloride.....	"	.25
Nitrate, crystals.....	"	.35
Oxide.....	"	.19@.20
Cream of Tarter—crys.	"	.23½
Granulated.....	"	.24
Powdered	"	.24
Cryolite.....	"	.06½
Explosives—		
Blasting powder, A.....	"	.10@
Blasting powder, B.....	"	.05@.05½
"Rackarock," A.....	"	.25
"Rackarock," B.....	"	.18
Judson R.R. powder....	"	.10
Dynamite, (40% nitroglycerine).....	"	.15
(50% nitro-glycerine)..	"	.17
(60% nitro-glycerine)..	"	.19
(75% nitro-glycerine)..	"	.23
Glycerine for nitro (32 2-10°Be.).....	"	.16½
Nitro-Benzole.....	"	.14
Feldspar—Ground.....sh. ton		6.50@7.75
Flint—(See Silica).		
Fluorspar, f. o. b. mines—		
Am. lump, 1st grade...	"	7.50
2d gr.....	"	6.50
Gravel.....	"	6.00
Crushed.....	"	5.75
Ground, ex. fine	"	19.00
2d gr.	"	15.00
Foreign, lump.....	"	8.00@12.00
Ground.....	"	11.50@14.00
Fuller's Earth—Lump.100 lbs.		.75
Powdered.....	"	.85
Ganister Rock.....lg. ton.		6.50
Graphite—(See Plumbago).		
Gypsum—		
Am. gr'd (terra alba)...sh. ton		8.00
Fertilizer.....	"	7.00
Rock.....lg. ton		4.00
English and French....	"	14.00@16.00
Infusorial Earth—Ground.		
American, best.....	"	20.00
French.....	"	37.50
German.....	"	40.00
Iodine—Crude.....100 lbs.		2.45
Resublimed.....	"	2.85
Iron—Chromate.....	lb.	.03@.10
Muriate	"	.05
Nitrate, com'l.....	"	.01¼@.01¾
True.....	"	.04
Oxide, pure copperas col	"	.05@.10
Purple-brown.....	"	.02
Venetian red.....	"	01@.01½
Scale	"	.01@.03
Kaolin—(See Clay, China).		
Kryolith—(See Cryolite.)		
Lead—Acetate, white ...	lb.	.06½@.07½
Com'l, broken.....	"	.06@.07
White, gran.....	"	.07½@.08
Nitrate, com'l.....	"	.00½@.06¾
Chem. pure.....	"	.35
Lime—Bldg., ab. 250 lbs	bbl.	.90
Finishing.....	"	1.00
Magnesite—		
Crude, lump (95%) Greece	lg. ton	7.25
German (85%).....	"	12.00
Calcined, 600° C.(Greece)	"	15.00
1,000° C.(Greece)	"	18.50
3,000° F. (Greece)..	"	21.00
Domestic, soft.....sh. ton		12.00@15.00
Bricks, all magnesite..	M.	185.00
Magnesite and chrome.	"	226.00
Magnesium—		
Metallic, ingots (Ger)..	kg.	5.95@6.90
Powdered (Ger.).....	"	6.19
Ribbon or wire (Ger.).	"	10.00
Carbonate, light, fine pd	lb.	.03¾@.04
Blocks.....	"	.06@.09
Chloride, com'l.....	"	.01¾
Fused.....	"	.20
Nitrate.....	"	.60
Manganese—Crude, pow'd 70@75% binoxide....	"	.01¼@.01½

	Cust. Meas.	Price.
Manganese—		
75@85% binoxide....	lb.	.01½@.02½
85@90% binoxide....	"	.02½@.03¼
90@95% binoxide....	"	.02¾@.05½
Carbonate.....	"	.16@.20
Chloride.....	"	.04
Ore, 50%.....	unit	.22@.22½
Marble—Flour .....sh. ton		5.50@8.00
Mercury—		
Bichloride	lb.	.59@.60
Bisulphate.....	"	.41
Mica—N. Y. gr'nd, coarse	"	.05
Fine.....	"	.08
Sheets, 1½x3 in.....	"	.60
8x10 in.....	"	13.00
Mineral Wool—		
Slag, ordinary.....100 lbs.		.90
Selected.....	"	1.40
Extra.....	"	3.00
Rock, ordinary.....sh. ton		32.00
Selected.....100 lbs.		2.50
Extra.....	"	5.00
Monazite—95%.....sh. ton		140.00
Nickel—Oxide, bl'k No. 1	lb.	1.00
Black No. 2.....	"	.60
Green, No. 1.....	"	1.00
No. 2.....	"	.60
Oils—		
Black, reduced 29 gr.:		
25@30 cold test.....	gal.	.10½@.11
15, cold test.....	"	.11½@.12
Zero.....	"	.12½@.13½
Summer.....	"	.10@.10½
Cylinder, dark steam ref	"	.09½@.14½
Dark filtered.....	"	.12½@.17½
Light filtered.....	"	.14½@.17
Extra cold test.....	"	.22½@.26½
Gasolene, 86°@90°.....	"	.16@.18
Neutral filtered, lemon, 33@34 gr.....	"	.14½@.20
White, 33@34 gr.....	"	.22½@.24½
Wool grade, 32 gr....	"	.12½@.15½
Naphtha, 62°.....	"	.12¾
Deodorized, 76°.....	"	.13¾
Linseed, domestic raw..	"	.44
Boiled	"	.46
Calcutta, raw.....	"	.65
Graphite, lubricating, Am. dry.....	lb.	.10
In oil.....	"	.12
Axle grease.....	"	.08½@.10
Wood grease.....	"	.05@.06
Ozokerite—Foreign	"	.08
Paints and Colors—		
Benzine, Sumatra.....	"	.35@.40
Marbled.....	"	.27@.28
Chrome green, common	"	.05@.06
Extra.....	"	.12@.15
Chem. pure.....	"	.19@.25
Yellow, common.....	"	.10
Best.....	"	.25
Silica Graphite, thick..	"	.12
Thinned.....	gal.	1.15
Lampblack—Com'l.....	lb.	.03@.05
Refined.....	"	.08@.10
Calcined.....	"	.12@.20
Fine spirit.....	"	.20@.35
Litharge, Am. powd..	"	.06@.06½
English flake.....	"	.08@.08¼
Metallic, brown.....sh. ton		16.00@20.00
Red.....	"	16.00@20.00
Ocher, Am. common....	"	9.25@10.00
Best.....	"	21.25@25.00
Dutch, washed.....	lb.	.04¾@.05
French, washed.....	"	.01¼@.02½
Orange mineral, Am...	"	.07¾@.08
Foreign, as to make..	"	.09@.10¾
Paris green, pure.....	"	.11@.12
Red lead, American.....	"	.06@.06½
Foreign.....	"	.08@.08¼
Shellac, "D. C.".....	"	.26
Native.....	"	16
Turpentine, spirits.....	gal.	.44½@.45
Ultramarine, best.....	lb.	.25
Vermilion, Amer. lead..	"	.10
Quicksilver.....	"	.64@.65
Chinese	"	.80@.90
English, imported....	"	.67
White lead, Am., dry...	"	.05½@.05¾
In oil.....	"	.06@.06½
English, in oil.....	"	.07½@.08¼
Whiting, common.....100 lbs.		.45
Gilders.....	"	.50
Zinc white, Am., dry lb.		.05¾@.06
American, red seal...	"	.07½@.08
Green seal.....	"	.08@.08½
Foreign, red seal, dry	"	.07¾@.08¾
Green seal, dry.....	"	.08¾@.09¾
Foreign, in oil.....	"	.10½@.11¾
Plumbago—		
Am. lump, f. o. b. Providence, R. I.....sh. ton		8.00
Am. pulv., f. o. b. Providence, R. I.....	"	30.00
German, lump.....100 lbs.		1.50
Pulverized.....	"	2.00
Ceylon, pulv. common.	lb	.04½
Best.....	"	.06@.10
Italian, pulv.....	"	.01¼
Potash—Caustic, ord...	"	.05
Elect. (90%).....	"	.06@.07
Potassium—		
Metallic, in balls (Ger)..	kg.	17.85
Bicarbonate cryst.....	lb.	.08½
Powdered or gran....	"	.12
Bichromate.....	"	.09¾
Bromide, ...	"	.46@.47
Carbonate.....	"	.02¾@.03½
Chromate.....	"	.35
Cyanide (98@99%).....	"	.28@.29
Ferro-cyanide	"	.19@.20
Iodide	"	2.15
Permanganate, pure cr.	"	.14@.15
Prussiate, yellow.....	"	.19¼@.19¼
Red.....	"	.37@.38
Silicate.....	"	.06
Sulphide, com'l.....	"	.10

	Cust. Meas.	Price.
Quartz—(See Silica).		
Rosin—Common.....	bbl.	$1.25
Best.....	"	4.10
Salt—N.Y. com. fine abt. 380 lbs.....	bbl.	.70
N. Y. agricultural.....sh. ton		1.50
N. Y. coarse.....	"	2.30
N. Y. dairy and table...	"	2.90
Saltpeter—Crude.....100 lbs.		3.50
Refined.....	"	4.25@5.50
Samarskite.....	lb.	1.00
Silica—Best foreign....lg. ton		10.00@11.00
Ground quartz, ord....sh. ton		6.00@8.00
Best.....	"	12.00
Lump quartz.....	"	2.50@4.00
Fire bricks (Blue Welch) M.		35.00
Silver—Chloride.....	oz.	.65
Nitrate.....	"	.41
Oxide.....	"	.85@1.10
Sodium—Metallic.....	lb.	.07¾
Acetate, com'l.....	"	.08¾@.04
Bichromate.....	"	.07
Bromide	"	.49@.50
Chlorate, com'l.....	"	.09¾@.10
Hyposulphite.....100 lbs.		1.60@1.70
Nitrite.....	lb.	.07½@.07¾
Peroxide.....	"	.45
Phosphate.....	"	.08
Triphosphate	"	.04
Silicate, conc.....	"	.01@.01½
Sulphate, gran., puri'd.	"	.02
Sulphide.....100 lbs.		1.75
Sulphite.....	lb.	.02½
Tungstate, com'l	"	.35
Pure.....	"	.50
Strontium—Nitrate	"	.07¼
Sulphur—Roll.....100 lbs.		1.70
Flour.....	"	1.80@1.85
Flowers, sublimed...	"	2.00
Talc—N. C. No. 1.....sh. ton		15.00@15.50
No. 2.....	"	10.00@12.00
N. Y., Fibrous.....	"	8.00@9.00
French..... .....100 lbs.		1.25@1.50
Italian.....	"	1.50@2.00
Tar—Coal.....	bbl.	3.00
Tin—Chloride	lb.	.13@.15
Crystals.....	"	.24@.26
Muriate, com'l.	"	.09
Oxide, white, ch. pure..	"	.48@.50
Uranium—Oxide.....	"	1.80@3.00
Zinc—Metallic, ch. pure..	"	.09@.10
Carbonate.....	"	.15
Chloride	"	.06@.08
Dust.....	"	.07@.07¼
Sulphate.....	"	.02½

THE RARE ELEMENTS.

Prices given are at makers' works in Germany, unless otherwise noted.

	Cust. Meas.	Price.
Barium—Amalgam.....	grm.	$1.19
Electrol.....	"	5 71
Beryllium—Powder.....	"	5.95
Crystals.....	"	9.04
Nitrate (N Y.).....	oz.	2.50
Boron—Amorphous, pure	grm.	.19
Crystals, pure.....	"	1.43
Nitrate (N. Y.).....	lb.	1.50
Calcium—Electrol.....	"	4.28
Cerium—Fused.....grm.		2.02
Nitrate (N. Y.).....	lb.	21.00
Chromium—Fused.....	kg.	5.95
Pure powder 95%.....	"	1.79
Chem. pure cryst.....	grm.	.21
Cobalt—(98@99%).....	kg.	5.35@5.71
Pure.....	"	30.94
Didymium—Powder.....	grm.	3.81
Nitrate (N. Y.).....	oz.	4.00
Erbium	grm.	3.09
Nitrate (N. Y.).....	oz.	3.00
Gallium.....	grain	9.52
Germanium—Powder...	grm.	33.32
Fused.....	"	35.70
Glucinum—Powder.....	"	5.95
Crystals.....	"	9.04
Nitrate (N. Y.).....	oz.	2.50
Indium.....	grm.	4.05
Iridium—.....	"	2.38
Lanthanum—Powder....	"	4.28
Electrol, in balls	"	9.04
Nitrate (N. Y.).....	oz.	3.50
Lithium.....	grm.	2.38
Nitrate (N. Y.).....	oz.	.60
Molybdenum—Powder..	kg.	2.62
Fused, electrol 95%.....100 grms.		15.47
Niobium.....	grm.	3.81
Osmium.....	"	.95
Palladium.....	"	.95
Rhodium.....	"	2.87
Rubidium—Pure.....	"	4.76
Ruthenium—Pure powd	"	2.38
Selenium—Com'l powder	kg	30.94
Sublimed powder.....	"	40.46
Sticks.....	"	33.32
Silicium—Amorphous...100 grms.		2.87
Crystals, pure....	"	5.95
Strontium—Electrol	grm.	6.19
Tantalium—Pure.....	"	3.57
Tellurium—Ch. p. sticks.100 grms.		11.90
Powder.....	"	9.52
Thallium.....	kg.	23.80
Thorium—Metallic.....	grm.	7.85
Nitrate 49@50% (N. Y.)..	lb.	5.00@5.50
Titanium.....	grm.	.71
Uranium.....	"	.48
Nitrate (N. Y.).....	oz.	.25
Vanadium—Fused.....	grm.	1.19
Wolfram—Fused.....100 grms.		22.80
Powder, 95@98%.....	kg.	1.90
Chem. pure.....	"	6.42
Yttrium.....	grm.	3.33
Nitrate (N. Y.).....	oz.	4.00
Zirconium—Com'l.....	kg.	119.00
Pure.....	grm.	.71
Nitrate (N. Y.).....	oz.	1.00

NOTE.—These quotations are for wholesale lots in New York unless otherwise specified, and are generally subject to the usual trade discounts. This table is revised up to Oct. 26th. Readers of the ENGINEERING AND MINING JOURNAL are requested to report any corrections needed, or to suggest additions which they may consider advisable. See also Market Review of Chemicals and Minerals.